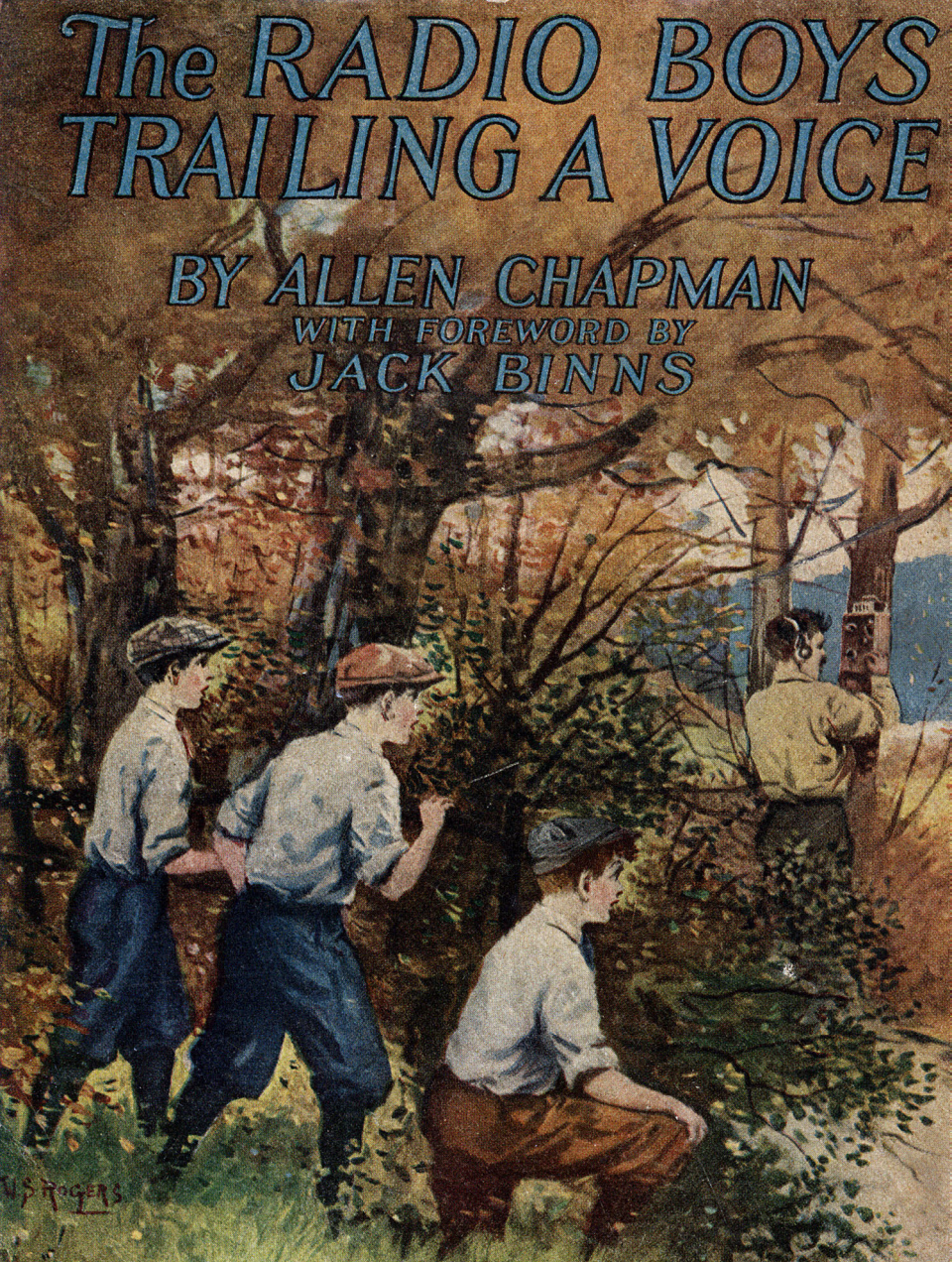
The RADIO BOYS TRAILING A VOICE

BY ALLEN CHAPMAN

WITH FOREWORD BY
JACK BINNS



THE RADIO BOYS SERIES

(TRADEMARK REGISTERED)

THE RADIO BOYS SERIES

(Trademark Registered)

THE RADIO BOYS TRAILING A VOICE;

Or, Solving a Wireless Mystery

By ALLEN CHAPMAN

Author of
"The Railroad Series," Etc.
With a
FOREWORD BY JACK BINNS

The Radio Boys are listening-in to a concert when they suddenly switch to a private message, given in disconnected words which apparently have no meaning. But they recognize the voice as that of a man who in the past had led a shady life. Later on the lads hear of a number of thefts of automobiles, and then a big truck containing goods belonging to the father of one of the boys is held up and looted. At last the lads follow a man through the woods, see him use a radio receiving set fastened to a tree, and later, obtain a note-book containing the mysterious code.

How they then got the authorities on the trail of the criminals is told in an interesting way. The volume contains a great mass of up-to-date radio information.

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With a Foreword by Jack Binns, Radio Expert of the *New York Tribune*

Illustrated. Individual colored wrappers for each story

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THE RADIO BOYS AT MOUNTAIN PASS ; Or, The Midnight Call for Assistance

THE RADIO BOYS TRAILING A VOICE ; Or, Solving a Wireless Mystery

THE RADIO BOYS WITH THE FOREST RANGERS ; Or, The Great Fire on Spruce Mountain

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TOM SWIFT AND HIS FLYING BOAT
TOM SWIFT AND HIS GREAT OIL GUSHER

GROSSET & DUNLAP, PUBLISHERS, NEW YORK

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by
ALLEN CHAPMAN

WITH FOREWORD BY JACK BINNS

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THE RADIO BOYS TRAILING A VOICE

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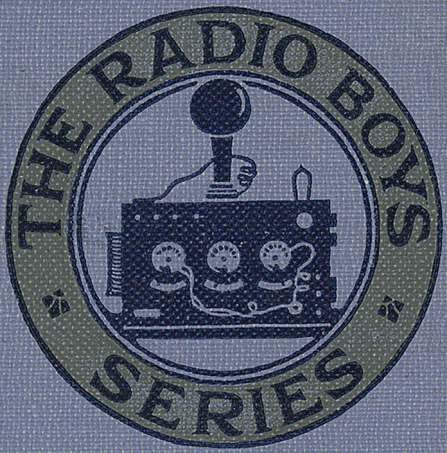

ALLEN CHAPMAN

To John Krula Jr.
from
Mother

March 1923 Birthday.

THE RADIO BOYS TRAILING A VOICE

THE MAN WAS EVIDENTLY RECEIVING A MESSAGE.

The Radio Boys Trailing a Voice. *Page* 153

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OR

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The Radio Boys Trailing a Voice

FOREWORD

By Jack Binns

Within a comparatively short time after this volume is published the human voice will be thrown across the Atlantic Ocean under conditions that will lead immediately to the establishment of permanent telephone communication with Europe by means of radio.

Under the circumstances therefore the various uses of radio which are so aptly outlined in it will give the reader an idea of the tremendous strides that have been made in the art of communicating without wires during the past few months.

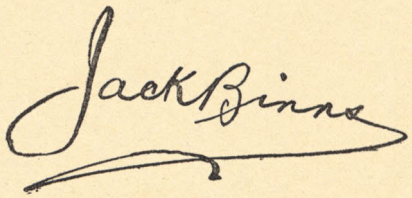
Of these one of the most important, which by the way is dealt with to a large extent in the present volume, is that of running down crooks. It must not be forgotten that criminals, and those criminally intent are not slow to utilize the latest developments of the genius of man, and radio is useful to them also. However, the forces of law and order inevitably prevail, and radio therefore is going to be increasingly useful in our general police work.

Another important use, as outlined in this volume, is in the detection of forest fires, and in fact generally protecting forest areas in conjunction with aircraft. With these two means hundreds of thousands of acres can now be patrolled

in a single day more efficiently than a few acres were previously covered.

Radio is an ideal boy's hobby, but it is not limited to youth. Nevertheless it offers a wonderful scope for the unquenchable enthusiasm that always accompanies the application of youthful endeavor, and it is a fact that the majority of the wonderful inventions and improvements that have been made in radio have been produced by young men.

Since this book was written there has been produced in this country the most powerful vacuum tube in the world. In size it is small, but in output it is capable of producing 100 kilowatts of electrical power. Three such tubes will cast the human voice across the Atlantic Ocean under any conditions, and transmit across the same vast space the world's grandest music. Ten of these tubes joined in parallel at any of the giant transmitting wireless telegraph stations would send telegraph code messages practically around the world.



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THE RADIO BOYS TRAILING A VOICE

CHAPTER I

SPLINTERING GLASS

"You fellows want to be sure to come round to my house to-night and listen in on the radio concert," said Bob Layton to a group of his chums, as they were walking along the main street of Clintonia one day in the early spring.

"I'll be there with bells on," replied Joe Atwood, as he kicked a piece of ice from his path. "Trust me not to overlook anything when it comes to radio. I'm getting to be more and more of a fan with every day that passes. Mother insists that I talk of it in my sleep, but I guess she's only fooling."

"Count on yours truly too," chimed in Herb Fennington. "I got stirred up about radio a little later than the rest of you fellows, but now I'm making up for lost time. Slow but sure is my motto."

"Slow is right," chaffed Jimmy Plummer. "But what on earth are you sure of?"

"I'm sure," replied Herb, as he deftly slipped a bit of ice down Jimmy's back, "that in a minute you'll be dancing about like a howling dervish."

His prophecy was correct, for Jimmy both howled and danced as he tried vainly to extricate the icy fragment that was sliding down his spine. His contortions were so ludicrous that the boys broke into roars of laughter.

"Great joke, isn't it?" snorted Jimmy, as he bent nearly double. "If you had a heart you'd lend a hand and get this out."

"Let's stand him on his head," suggested Joe. "That's the only thing I can think of. Then it'll slide out."

Hands were outstretched in ready compliance, but Jimmy concluded that the remedy was worse than the presence of the ice and managed to keep out of reach.

"Never mind, Jimmy," said Bob consolingly. "It'll melt pretty soon, anyhow."

"Yes, and it'll be a good thing for Jimmy to grin and bear it," added Herb brightly. "It's things like that that develop one's character."

" 'It's easy enough to be pleasant, when life moves along like a song, but the man that's worth while, is the man who can smile when everything's going dead wrong,' " quoted Joe.

Jimmy, not at all comforted by these noble maxims, glared at his tormentors, and at last Bob came to his relief, and, putting his hand inside his collar, reached down his back and brought up the piece of ice, now greatly reduced in size.

"Let's have it," demanded Jimmy, as Bob was about to throw it away.

"What do you want it for?" asked Bob. "I should think you'd seen enough of it."

"On the same principle that a man likes to look at his aching tooth after the dentist has pulled it out," grinned Joe.

"Don't give it to him!" exclaimed Herb, edging away out of reach, justly fearing that he might feel the vengeance of the outraged Jimmy.

"You gave it to him first, so it's his," decided Bob, with the wisdom of a Solomon, as he handed it over to the victim.

Jimmy took it and started for Herb, but just then Mr. Preston, the principal of the high school, came along and Jimmy felt compelled to defer his revenge.

"How are you, boys?" said Mr. Preston, with a smile. "You seem to be having a good time."

"Jimmy is," returned Herb, and Jimmy covertly shook his fist at him. "We're making the most of the snow and ice while it lasts."

"Well, I don't think it will last much longer," surmised Mr. Preston, as he walked along with

them. "As a matter of fact, winter is 'lingering in the lap of spring' a good deal longer than usual this year."

"I suppose you had a pleasant time in Washington?" remarked Joe inquiringly, referring to a trip from which the principal had returned only a few days before.

"I did, indeed," was the reply. "To my mind it's the most interesting city in the country. I've been there a number of times, and yet I always leave there with regret. There's the Capitol, the noblest building on this continent and to my mind the finest in the world. Then there's the Congressional Library, only second to it in beauty, and the Washington Monument soaring into the air to a height of five hundred and fifty-five feet, and the superb Lincoln Memorial, and a host of other things scarcely less wonderful.

"But the pleasantest recollection I have of the trip," he went on, "was the speech I heard the President make just before I came away. It was simply magnificent."

"It sure was," replied Bob enthusiastically. "Every word of it was worth remembering. He certainly knows how to put things."

"I suppose you read it in the newspaper the next day," said Mr. Preston, glancing at him.

"Better than that," responded Bob, with a

smile. "We all heard it over the radio while he was making it."

"Indeed!" replied the principal. "Then you boys heard it even before I did."

"What do you mean?" asked Joe, in some bewilderment. "I understood that you were in the crowd that listened to him."

"So I was," Mr. Preston answered, in evident enjoyment of their mystification. "I sat right before him while he was speaking, not more than a hundred feet away, saw the motion of his lips as the words fell from them and noted the changing expression of his features. And yet I say again that you boys heard him before I did."

"I don't quite see," said Herb, in great perplexity. "You were only a hundred feet away and we were hundreds of miles away."

"And if you had been thousands of miles away, what I said would still be true," affirmed Mr. Preston. "No doubt there were farmers out on the Western plains who heard him before I did.

"You see it's like this;" the schoolmaster went on to explain. "Sound travels through the air to a distance of a little over a hundred feet in the tenth part of a second. But in that same tenth of a second that it took the President's voice to reach me in the open air radio could have carried it eighteen thousand six hundred miles."

"Whew!" exclaimed Jimmy. "Eighteen thousand six hundred miles! Not feet, fellows, but miles!"

"That's right," said Bob thoughtfully. "Though I never thought of it in just that way before. But it's a fact that radio travels at the rate of one hundred and eighty-six thousand miles a second."

"Equal to about seven and a half times around the earth," observed the principal, smiling. "In other words, the people who were actually sitting in the presence of the President were the very last to hear what he said.

"Put it in still another way. Suppose the President were speaking through a megaphone in addition to the radio and by the use of the megaphone the voice was carried to people in the audience a third of a mile away. By the time those persons heard it, the man in the moon could have heard it too—that is," he added, with a laugh, "supposing there really were a man in the moon and that he had a radio receiving set."

"It surely sounds like fairyland," murmured Joe.

"Radio is the fairyland of science," replied Mr. Preston, with enthusiasm, "in the sense that it is full of wonder and romance. But there the similarity ceases. Fairyland is a creation of the

fancy or the imagination. Radio is based upon the solid rock of scientific truth. Its principles are as certain as those of mathematics. Its problems can be demonstrated as exactly as that two and two make four. But it's full of what seem to be miracles until they are shown to be facts. And there's scarcely a day that passes without a new one of these 'miracles' coming to light."

He had reached his corner by this time, and with a pleasant wave of his hand he left them.

"He sure is a thirty-third degree radio fan," mused Joe, as they watched his retreating figure.

"Just as most all bright men are becoming," declared Bob. "The time is coming when a man who doesn't know about radio or isn't interested in it will be looked on as a man without intelligence."

"Look here!" exclaimed Jimmy suddenly. "What's become of my piece of ice?"

He opened his hand, which was red and wet and dripping.

"That's one on you, Jimmy, old boy," chuckled Joe. "It melted away while you were listening to the prof."

"It's an ill wind that blows nobody good," said Herb complacently. "Jimmy meant to put that down my back."

"Oh, there are plenty of other pieces," said

Jimmy, as he picked one up and started for Herb.

Herb started to run, but slipped and fell on the icy sidewalk.

"You know what the Good Book says," chaffed Joe. "The wicked stand on slippery places."

"Yes, I see they do," replied Herb, as quick as a flash, looking up at him. "But I can't."

The laugh was on Joe, and Herb felt so good over the retort that he did not mind the fall, though it had jarred him considerably. He scrambled to his feet and brushed off his clothes, while Jimmy, feeling that his comrade had been punished enough, magnanimously threw away the piece of ice that was to have been the instrument of his vengeance.

"The reason why I wanted you fellows to be sure to be on hand to-night," resumed Bob, as they walked along, "was that I saw in the program of the Newark station in the newspaper this morning that Larry Bartlett was down for an entirely new stunt. You know what a hit he made with his imitations of birds."

"He sure did," agreed Joe. "To my mind he had it all over the birds themselves. I never got tired listening to him."

"He certainly was a dabster at it," chimed in Jimmy.

"Now he's going in to imitate animals," ex-

plained Bob. "I understand that he's been haunting the Zoo for weeks in every minute of his spare time studying the bears and lions and tigers and elephants and snakes, and getting their roars and growls and trumpeting and hisses down to a fine point. I bet he'll be a riot when he gives them to us over the radio."

"He sure will," assented Herb. "He's got the natural gift in the first place, and then he practices and practices until he's got everything down to perfection."

"He's a natural entertainer," affirmed Bob. "I tell you, fellows, we never did a better day's work than when we got Larry that job at the sending station. Not only was it a good thing for Larry himself when he was down and out, but think of the pleasure he's been able to give to hundreds of thousands of people. I'll bet there's no feature on the program that is waited for more eagerly than his."

By this time the boys had reached the business portion of the town and the short spring day was drawing to a close. Already lights were beginning to twinkle in the stores that lined both sides of the street.

"Getting near supper time," remarked Bob. "Guess we'd better be getting along home. Don't forget to come—Gee whiz!"

The ejaculation was wrung from him by a snowball that hit him squarely in the breast, staggering him for a moment.

Bang! and another snowball found a target in Joe. It struck his shoulder and spattered all over his face and neck.

"That felt as though it came from a gun!" he exclaimed. "It's the hardest slam I ever got."

"Who did it?" demanded Bob, peering about him in the gathering darkness.

Halfway up the block they saw a group of dark figures darting into an alleyway.

"It's Buck Looker and his crowd!" cried Jimmy. "I saw them when they ran under that arc light."

"Just like that crowd to take us unawares," said Bob. "But if they're looking for a tussle we can accommodate them. Get busy, fellows, and let them have something in return for these two sockdolagers."

They hastily gathered up several snowballs apiece, which were easily made because the snow was soft and packed readily, and ran toward the alleyway just in time to see Buck and his crowd emerging from their hiding place.

There was a spirited battle for a few minutes, each side making and receiving some smashing hits. Buck's gang had the advantage in that they had a large number of missiles already pre-

pared, and even in the excitement of the fight the radio boys noticed how unusually hard they were.

"Must have been soaking them in water until they froze," grunted Jimmy, as one of them caught him close to the neck and made him wince.

As soon as their extra ammunition was exhausted and the contending forces in this respect were placed more on a footing of equality, Buck and his cronies began to give ground before the better aim and greater determination of Bob and his comrades.

"Give it to them, fellows!" shouted Bob, as the retreat of their opponents was rapidly becoming a rout.

At the moment he called out, the progress of the fight had brought the radio boys directly in front of the windows of one of the largest dry-goods stores in the town.

In the light that came from the windows Bob saw a snowball coming directly for his head. He dodged, and——

Crash! There was the sound of splintering glass, and the snowy missile whizzed through the plate glass window!

CHAPTER II

IN A DILEMMA

THERE was a moment of stupor and paralysis as the meaning of the crash dawned upon the radio boys.

Buck and his crowd had vanished and were footing it up the fast-darkening street at the top of their speed.

The first impulse of the radio boys was to follow their example. They knew that none of them was responsible for the disaster, and they were of no mind to be sacrificed on behalf of the gang that had attacked them. And they knew that in affairs of that kind the ones on the ground were apt to suffer the more severely.

They actually started to run away, but had got only a few feet from the scene of the smash when Bob, who had been thinking quickly, called a halt.

"None of this stuff for us, fellows," he declared. "We've got to face the music. I'm not going to have a hunted feeling, even if we suc-

ceeded in getting away. We know we didn't do it and we'll tell the plain truth. If that doesn't serve, why so much the worse for us. But at any rate we won't be despising ourselves as cowards."

As usual, his comrades accorded him the leadership and fell in with his plan, although it was not without many misgivings that they awaited the coming of the angry proprietor of the place, who had already started in pursuit of them, accompanied by many others who had been attracted by the crash and whose numbers were being rapidly augmented.

"Here are the fellows that smashed my window!" cried Mr. Larsen, the proprietor of the drygoods store, rushing up to them and shaking his fist in their faces. "Where are the police?" he shouted, looking around him. "I'll have them arrested for malicious damage."

And while he faced them, gesticulating wildly, his face purple with anger and excitement, it may be well for the benefit of those who have not read the preceding volumes of this series to tell briefly who the radio boys are and what had been their adventures before the time this story opens.

The acknowledged leader of the boys was Bob Layton, son of a prosperous chemist of Clintonia, in which town Bob had been born and brought up. Mr. Layton was a respected citizen of the

town and foremost in its civic activities. Clintonia was a thriving little city of about ten thousand population, situated on the Shagary River, about seventy-five miles from the city of New York.

Bob at the beginning of this story was about sixteen years old, tall and stalwart and a clean-cut specimen of upstanding American youth. He was of rather dark complexion and had a pair of eyes that looked straight at one. Those eyes were usually merry, but could flash with indignation when circumstances required it. He was never on the lookout for trouble, but was always ready to meet it half way, and his courageous character together with his vigorous physique had made him prominent in the sports of the boys of his own age. He was a crack baseball player and one of the chief factors of the high school football eleven. No one in Clintonia was held in better liking.

Bob's special chum was Joe Atwood, son of the leading physician of the town. Joe was fair in complexion and sturdy in makeup. He and Bob had been for many years almost inseparable companions, Bob usually acting as captain in anything in which they might be engaged, while Joe served as first mate. The latter had a hot temper, and his impulsiveness sometimes got him into trouble and would have involved him in scrapes

oftener if it had not been for the cooler head and steadying influence of Bob.

Two other friends of the boys who were almost always in their company were Herb Fennington, whose father kept a large general store in the town, and Jimmy Plummer, son of a respected carpenter and contractor. Herb was of a rather indolent disposition, but was jolly and good-natured and always full of jokes, some of them good, others poor, which he frequently sought to spring on his companions.

Jimmy was a trifle younger than his mates, fat and round and excessively fond of the good things of life. His liking for that special dainty had gained him the nickname of "Doughnuts," and few of such nicknames were ever more fittingly bestowed.

Apart from the liking that drew them together, the boys had another link in their common interest in radio. From the time that this wonderful new science had begun to spread over the country with such amazing rapidity, they had been among the most ardent "fans." Everything that they could read or learn on the subject was devoured with avidity, and they were almost constantly at the home of one or the other, listening in on their radio sets and, lately, sending messages, in the latter of which they had now attained an unusual degree of proficiency.

In decided contrast to Bob and his friends was another group of Clintonia youth, between whom and the radio boys there was a pronounced antipathy. The leader of this group was Buck Looker, a big overgrown, hulking boy, dull in his studies and a bully in character. His two special cronies were Carl Lutz, a boy of about his own age, and Terry Mooney, both of them noted for their mean and sneaking dispositions. Buck lorded it over them, and as his father was one of the richest men in the town they cringed before him and were always ready to back him up in any piece of meanness and mischief.

The enthusiasm of Bob and his friends for radio was fostered by the help and advice of the Reverend Doctor Dale, the clergyman in charge of the Old First Church of Clintonia, who, in addition to being an eloquent preacher, was keenly interested in all latter-day developments of science, especially radio. Whenever the boys got into trouble with their sets they knew that all they had to do was to go to the genial doctor and be helped out of their perplexities.

An incident that gave a great impetus to their interest in the subject was the offering of prizes by Mr. Ferberton, the member of Congress for their district, for the best radio sets turned out by the boys of his congressional district by their own endeavors. Bob, Joe, and Jimmy entered

into this competition with great zest. Herb with his habitual indolence kept out of it.

While the boys were engrossed with their radio experiments an incident happened in town that led them into many unexpected adventures. An automobile run by a visitor in town, a Miss Nellie Berwick, got out of her control and dashed through the window of a store. Bob and Joe, who happened to be at hand, rescued the girl from imminent peril, while Herb and Jimmy did good work in curbing the fire that followed the accident.

How the boys learned of the orphan girl's story, got on the track of the rascal who had tried to swindle her and forced him to make restitution; what part the radio played in bringing the fellow to terms; how they detected and thwarted the plans of Buck Looker and his cronies to wreck their sets; are told in the first volume of this series entitled: "The Radio Boys' First Wireless; Or, Winning the Ferberton Prize."

That summer the chums went to Ocean Point on the seashore, where many of the Clintonia folks had established a little bungalow colony of their own. What adventures they met with there; what strides they made in the practical work of radio; how they were enabled by their knowledge and quick application of it to save a storm-tossed ship on which members of their own families were voyaging; how they ran down

and captured the scoundrel Cassey who had knocked out with a blackjack the operator at the sending station and looted his safe—these and many more incidents are narrated in the second volume of this series entitled: "The Radio Boys at Ocean Point; Or, The Message That Saved the Ship."

While the summer season was yet at its height, the boys had occasion to rescue the occupants of a rowboat that had been run down by men in a stolen motor boat. The two rescued youths proved to be vaudeville actors, and the boys grew very friendly with them. The injury that crippled one of them, Larry Bartlett; the false accusation brought against him by Buck Looker; the way in which the boys succeeded in getting work for Larry at the sending station, where his remarkable gift of mimicry received recognition; how they themselves were placed on the broadcasting program, and the clever way in which they trapped the motor-boat thieves; are told in the third volume of the series, entitled: "The Radio Boys at the Sending Station; Or, Making Good in the Wireless Room."

The coming of fall brought the boys back to Clintonia, where, however, the usual course of their studies was interrupted by an epidemic that made necessary for a time the closing of the

schools. This gave the radio boys an opportunity to make a trip to Mountain Pass, a popular resort in the hills. Here they came in contact with a group of plotters who were trying to put through a nefarious deal and were able to thwart the rascals through the use of radio. By that same beneficent science too they were able to save a life when other means of communication were blocked. And not the least satisfactory feature was the utter discomfiture they were able to visit upon Buck Looker and his gang. These and many other adventures are told in the fourth volume of the series, entitled: "The Radio Boys at Mountain Pass; Or, The Midnight Call for Assistance."

And now to return to the radio boys as they stood facing the angry storekeeper amid a constantly growing throng of curious onlookers. They had been in many tighter fixes in their life but none that was more embarrassing.

"I'll have them arrested!" the storekeeper repeated, his voice rising to a shrill treble.

"Now look here," replied Bob. "Suppose you cut out this talk of having us arrested. In the first place, we didn't break your window. In the second place, if we had it wouldn't be a matter of arrest but of making good the damage."

"All right then," said Mr. Larsen eagerly,

catching at the last word. "Make good the damage. It will cost at least two hundred dollars to replace that window."

"I think you're a little high," returned Bob. "But that doesn't matter. I didn't say that we'd make the damage good. I said that if we'd broken it, it would be a matter of making good. But we didn't break it, and that lets us out I'll say."

"It's easy to say that," sneered the merchant. "How do I know that you didn't break it? It would of course be natural for you to try to lie out of it."

"It wouldn't be natural for us to lie out of it," replied Bob, controlling his temper with difficulty. "That isn't our way of doing things. Why do you suppose we stayed here when it would have been perfectly easy for us to get away? It wasn't a snowball we threw that broke your window. It was one thrown by the fellows we were fighting with."

"Always the other fellow that does it!" replied the storekeeper angrily. "Who was that other fellow or fellows then? Tell me that. Come on now, tell me that."

Bob kept silent. He had no love for Buck Looker and his gang, who had always tried to injure him, but he was not going to inform.

"See," said Mr. Larsen, misunderstanding his silence. "When I ask you, you can't tell me. You're the fellows that did it, all right, and you'll pay me for it or I'll have you put in jail, that's what I'll do."

"I saw the fellows who were firing snowballs in this direction," spoke up Mr. Talley, a caterer, pushing his way through the throng. "I nearly bumped into them as they were running away. Buck Looker was one of them. I saw his face plainly and can't be mistaken. The others I'm not so sure of, but I think they were Carl Lutz and Terry Mooney.

"For my part, Mr. Larsen," he continued, "I don't see how a snowball could break that heavy plate-glass window, anyway. My windows are no heavier, and they've often had snowballs come against them without doing any harm. Are you sure it wasn't something else that smashed the glass?"

"Dead sure," replied Larsen. "Come inside and see for yourself."

He led the way into his store, and Mr. Talley, the boys, and a number of others crowded in after him.

"Look," said Larsen, pointing to a piece of dress goods that had been hanging in the window. "See where the snow has splashed against it?

There's no question that a snowball did it. You can see the bits of snow around here yet if you'll only look."

This was true and the evidence seemed conclusive. But just then Bob's keen eyes detected something else. He stooped down and brought up quite a large sharp-edged stone which still had some fragments of snow adhering to it and held it up for all to see.

"Here's the answer," he said. "This stone was packed in the snowball, and that is why it smashed the window!"

CHAPTER III

THE STUTTERING VOICE

THERE was a stir of interest and exclamations of surprise as those in the store crowded closer to get a better view.

"That explains it," said Mr. Talley, as he examined the missile. "I was sure that no mere ball of snow could break that heavy window. To put such a stone in a snowball was little less than criminal," he went on gravely. "If that had hit any one on the temple it would almost certainly have killed him."

"It was coming straight for my head when I dodged," said Bob.

"That's another proof that it wasn't any ball we threw that broke the window," put in Joe. "Each one of us is willing to swear that there was no stone in any ball that we threw."

"Not only then but at any time," put in Herb. "Only a mean coward would do a thing like that. None of us has done it any time in his life."

"I believe that," replied Mr. Talley. "I've

known all you boys ever since you were little kids and I know you wouldn't be capable of it."

"That's all very well," said Mr. Larsen. "But that doesn't pay for my window. Whether any of you boys threw the ball or not you can't deny that you were engaged in a snowball fight right in front of my windows. If the fight hadn't been going on the window wouldn't have been smashed."

There was a certain amount of justice in this, and the boys were fair enough to acknowledge it.

"I suppose you are right there, Mr. Larsen," said Bob regretfully. "We ought to have kept out of range of the windows, but in the excitement we forgot all about that. Then, too, we never would have supposed that any ordinary snowball would have broken the window. Perhaps that was in the back of our minds, if we thought of it at all."

"Is the window insured?" queried Mr. Talley.

"Yes, it is," answered the storekeeper.

"Well, then, that lets you out," remarked Mr. Talley, with a note of relief in his voice. "That puts the matter up to the insurance company. If they want to take any legal steps they can; and of course they ought to be compensated by the parents of the boy who may be found guilty of having thrown the ball with a stone in it. For my part, I doubt very much that it can ever be

proved, unless the boy himself owns up to it."

"Think of Buck Looker ever owning up to anything!" muttered Jimmy.

"As for these boys," continued Mr. Talley, "I am perfectly sure in my own mind that they are telling the truth. You'll have to look for the culprit in the other crowd, and I've already told you who they are, or who one of them is, at least."

"Well," said the storekeeper, who by this time had cooled down considerably, "that, I suppose, will be something for the insurance company to settle. But by the terms of my contract with them I'll have to help them all I can to find out the responsible party, and I'll have to give them the names of all the boys concerned in the fight."

"That's all right," responded Bob. "You know our folks and you know that they're good for any judgment that may be found against them. But I'm sure it will be somebody else that will have to pay the bill."

There was nothing more to be done for the present, and the boys filed out of the store, after having expressed their thanks to Mr. Talley for the way he had championed their cause.

"Gee!" murmured Joe, as they went up the street toward their homes, "I know how a fellow feels now after he's been put through the third degree."

"It was rather a hot session," agreed Bob. "But I'm glad we had it out with him instead of running away. It's always best to take the bull by the horns. And you can't blame Mr. Larsen for feeling sore about it. Any one of us would probably have felt the same way."

"Sure thing," admitted Herb. "But think of that dirty trick of Buck Looker in putting stones in snowballs! It wasn't only that one that went through the window. Every time I got hit it made me jump."

"Same here," said Jimmy. "I was thinking all the time that they were the hardest snowballs I ever felt, but it never came into my mind that there were stones in them."

"Trust Buck to be up to every mean trick that any one ever thought of," returned Bob. "He hasn't got over the way we showed him up at Mountain Pass. He thought he had us dead to rights in the matter of that burned cottage, and it made him wild to see the way we came out on top. He and his gang would do anything to get even."

"It will be interesting to see what he'll say when this matter of the window is put up to him and his pals," remarked Herb.

"Not a doubt in the world what he'll say," replied Joe. "He'll swear till he's blue in the face that he never dreamed of using a stone in the

snowballs. Do you remember how he told us that he'd lie in court to keep us from putting anything over on him? Any one that expects to get the truth out of Buck is barking up the wrong tree. I guess the insurance company would better kiss their money good-by."

"I'm afraid so," returned Bob. "It was dark and there probably weren't any witnesses who saw them put the stones in, and it is likely that the company will have to let the matter drop."

The lads had reached Bob's gate by this time, and they separated with a promise to come over and listen in on the radio later on.

Bob told the whole story to his parents at the supper table that night, and his father and mother listened with great interest and some concern.

"I'm sorry you were mixed up in the thing at all, Bob," his father remarked thoughtfully. "Being in it, however, you acted just as you should have done. Just how far you and your friends may be held responsible, in case they can't find the one who actually threw the ball that broke the window, I'm not lawyer enough to say. It's barely possible that there may be some ground for action on the score of culpable carelessness in taking part in a snowball fight in front of store windows, and of course you were wrong in doing that. But the total amount involved is not very great after all, and it would be divided up among

the parents of the four of you, so there's nothing much to worry about. It would gall me though to have to pay for damages that were really caused by that cub of Looker's."

"I'm sorry, Dad," said Bob. "I'm hoping yet that something may develop that will put the thing up to Buck, or whoever it was of his gang that actually threw the ball."

"Let's hope so," returned Mr. Layton, though without much conviction in his voice, and dismissed the subject.

A little while afterward the other three boys came over to Bob's house to listen in on the radio concert. So much time, however, had been taken up in discussing the afternoon's adventure that they missed Larry's offering, which was among the first on the program. This was a keen disappointment, which was tempered, however, by the probability that they could hear him some evening later in the week.

"Sorry," remarked Joe. "But it only means that we still have a treat in store when the old boy begins to roar and growl and hiss so as to make us think that a whole menagerie has broken loose and is chasing us. In the meantime we can fix up that aerial so as to get a little better results."

"Funny thing I noticed the other day," remarked Bob, as they embarked upon some experiments.

"All sorts of funny things in the radio game," observed Joe. "Something new turns up every day. Things in your set that you think you can't do without you find you can do without and get results just about as usual."

"Just what I was going to tell you," returned Bob. "You must be something of a prophet."

"Oh, I wouldn't go quite so far as to say that," replied Joe, with mock modesty.

"Isn't he the shrinking violet?" chaffed Jimmy.

"Stop your kidding, you boobs, and let a regular fellow talk," chided Bob. "What I was going to say was that while I was tinkering with the set I disconnected the ground wire. Of course I thought that would put the receiver out of business for the time, and I was almost knocked silly when I found that I could hear the concert that was going on just about as well as though the wire had been connected. How do you account for that?"

"Don't account for it at all," replied Herb. "Probably just a freak, and might not happen again in a thousand times. Likely it was one of the unexplainable things that happen once in a while. Maybe there was a ground connection of some kind, if not by the wire. I wouldn't bank on it."

"It's queer, too, how many kinds of things can be used as aerials," put in Joe. "I heard the other

day of a man in an apartment house where the owner objected to aerials, who used the clothesline for that purpose. The wire ran through the rope, which covered it so that it couldn't be seen. It didn't prevent its use as a clothesline either, for he could hear perfectly when the wash was hanging on it."

"Oh, almost anything will do as an aerial," chimed in Jimmy. "The rib of an umbrella, the rainspout at the side of the house, the springs of a bed give good results. And that's one of the mighty good things about radio. People that have to count the pennies don't have to buy a lot of expensive materials. They can put a set together with almost any old thing that happens to be knocking around the house."

Bob had been working steadily, and, as the room was warm, his hands were moist with perspiration. He had unhooked an insulated copper wire that led to his outside aerial. His head phones were on, as he had been listening to the radio concert while he worked.

"I'll have to miss the rest of that selection, I guess," he remarked regretfully, as he unhooked the wire. "It's a pity, too, for that's one of the finest violin solos I ever heard. Great Scott! What does that mean?"

The ejaculation was wrenched from him by the fact that although he had disconnected the

wire he still heard the music—a little fainter than before but still with every note distinct.

He could scarcely believe his ears and looked at his friends in great bewilderment.

"What's the matter?" asked Joe, jumping to his feet. "Get a shock?"

"Not in the sense you mean, but in another way, yes," replied Bob, still holding the exposed end of the copper wire in his fingers. "What do you think of that, fellows? I'm an aerial!"

"Come out of your trance," adjured Herb unbelievingly. "They talk that way in the insane asylums."

"Clap on your headphones," cried Bob, too intent on his discovery to pay any attention to the gibe.

They did so, and were amazed at hearing the selection as plainly as did Bob himself.

The latter had been holding the disconnected wire so that his fingers just touched the uncovered copper portion at the end. Now he hastily scraped off several inches of the insulation and grasped the copper wire with his hand. Instantly the volume of sound grew perceptibly greater.

Hardly knowing what to make of it, he scraped off still more of the insulation.

"Here, you fellows," he shouted. "Each of you take hold of this."

Joe was the first to respond, and the sound be-

came louder. Then Herb and Jimmy followed suit, and it was evident that they served as amplifiers, for with each additional hand the music swelled to greater volume.

The boys looked at each other as if asking whether this was all real or if they had suddenly been transferred to some realm of fancy. They would not have been greatly surprised to wake up suddenly and find that they had been dreaming.

But there was no delusion about it and they listened without saying another word until, in a glorious strain of melody, the selection came to an end. Nor did they break the silence until a band orchestra was announced and crashed into a brilliant overture.

While it was still in full swing, Bob had an inspiration. He took off his headphones and clamped them on to the phonograph that stood on a table near by. Instantly the music became intensified and filled the room. When all their hands were on the wire, it became so loud that they had to close the doors of the phonograph.

"Well," gasped Bob, when the last strain had died away and the demonstration was complete, "that's something new on me."

"Never dreamed of anything like it," said Joe, sinking back in his chair. "Of course we know that the human body has electrical capacity and

that operators sometimes have to use metal shields to protect the tube from the influence of the hand. And in our loop aerial at Ocean Point you noticed that the receptivity of the tube was modified when we touched it with our fingers."

"Of course, in theory," observed Bob thoughtfully, "the human body possesses inductance as well as capacity, and so might serve as an antenna. But I never thought of demonstrating it in practice."

"So Bob is an aerial," grinned Herb. "I always knew he was a 'live wire,' but I never figured him out as an antenna."

"And don't forget that if Bob is an aerial we're amplifiers," put in Jimmy.

"There's glory enough for all," laughed Joe. "We'll have to tell Doctor Dale and Frank Brandon about this. We've got so many tips from them that it's about time we made it the other way around."

They were so excited about this new development which they had stumbled upon purely through accident that they sat talking about it for a long time until Bob chanced to look at his watch.

"Just have time for the last selection," he remarked, as he reconnected the aerial. "We'll wind up in the regular way this time. It's an aria from Lucia and I don't want to miss it."

He had some difficulty in making his adjustment, as there was a lot of interference at the moment.

"Raft of amateurs horning in," he muttered. "All of them seem to have chosen just this time to do it. I wonder——"

He stopped as though he had been shot, and listened intently. Then he beckoned to the others to adjust their headphones.

Into the receiver was coming a succession of stuttering sounds that eventually succeeded in framing intelligible words. Ordinarily this might have provoked laughter, but not now. They had heard that voice before.

It was the voice of Dan Cassey!

CHAPTER IV

A PUZZLING MYSTERY

FOR the second time that evening the radio boys thought they must be dreaming.

Cassey! Cassey the swindler, whom they had compelled to make restitution to the victim he had wronged. Cassey the thug, whom they had captured in that wild chase after he had looted the safe and nearly killed the operator in the sending station. Cassey the convict, who, to their certain knowledge, had been sentenced to a long term in prison.

What was Cassey doing over the radio? That it was that scoundrel they had no doubt. The stuttering, the tones of the voice, the occasional whistle which he indulged in in order to go on—all these things they recognized perfectly. It was the wildest kind of improbability that he had a double anywhere who could reproduce him so perfectly.

Gone now was any thought of the aria from Lucia. Bob motioned frantically to Jimmy to hand him a pencil and a sheet of paper. Then he

jotted down the words, as after great efforts they fell one by one from the stutterer's lips. As Bob did this he bent over the paper in frowning perplexity. The words themselves were intelligible, but they did not seem to make sense, nor was there anywhere a connected sentence.

Finally the stammering voice ceased, and after they had waited several minutes longer to make sure that it would not resume, the boys took off their headphones and gazed at each other in utter bewilderment.

"Well, I'll be blessed!" exclaimed Joe. "That villain Cassey, of all men on the face of the earth! What do you make of it, Bob?"

"I don't know what to make of it," confessed Bob. "It has simply knocked me endways. I never thought to hear of that rascal again for the rest of my life. Yet here he is, less than a year after he's been sentenced, talking over the radio."

"Perhaps he's received a pardon," hazarded Jimmy.

"Not at all likely," answered Bob. "It isn't as though he were a first offender. He's old in crime. You remember the raking over the judge gave him when he sentenced him. Told him if he had it in his power he'd give him more than he actually did. No, I think we can dismiss that idea."

"Isn't it possible," suggested Herb, "that he's

employed as radio operator in the prison? He understands sending and receiving all right."

"That doesn't strike me hard either," Bob objected. "Likely enough the prison is equipped with a wireless set, but it isn't probable that they'd let a prisoner operate it. It would give him too good a chance to get in touch with confederates outside the jail. Then, too, his stuttering would make him a laughing stock.

"The only explanation that I can see," he went on, "is that he's escaped, and he's sending this message on his own hook. Though what the message is about is beyond me."

"Just what did you get down?" asked Jimmy curiously. "I caught a few words, but I don't remember them all."

"It's a regular hodgepodge," replied Bob, spreading out the sheet of paper, while they all crowded around to read.

"Corn—hay—six—paint—water—slow — sick —jelly," read Joe aloud. "Sounds to me like the ravings of a delirium patient."

"And yet I'm sure that I got all the words down right," said Bob perplexedly. "It must be a code of some kind. We can't understand it, and Cassey didn't mean that any one should except some one person whose ear was glued to a radiophone. But you can bet that that person understood it all right."

"I wonder if we couldn't make it out," suggested Herb.

"No harm in trying," said Joe, "though compared to this a Chinese puzzle is as simple as A B C. Let's take a hack at it, anyhow. We'll each take a separate sheet of paper and try to get something out of it that makes sense."

For nearly an hour the boys did their best. They put the words in different orders, read them forward and backward. But the ideas conveyed by the separate words were so utterly dissimilar that they could frame nothing that had the slightest glimmering of sense and they were finally compelled to give it up.

"If time were money, we'd spend enough on this stuff to make us bankrupt," Joe remarked, in vast disgust, as he rose to get his cap. "Dan Cassey was foxy when he made this up. We'll have to give the rascal credit for that."

"Yes," admitted Herb, "it's the best kind of a code. Any one of those words might mean any one of a hundred thousand things. A man might spend a lifetime on it and be no nearer success at the end than he was when he started. The only way it can be unraveled is by finding the key that tells what the words stand for. And even that may not exist in written form. The fellows may simply have committed them to memory.

"I'll tell you what I'll do!" Bob exclaimed.

"'I'll get the prison to-morrow on the long distance 'phone and ask them about Cassey. I'll tell them all about this radio message, and it may be a valuable tip to them. They may be able to locate the station from which the messages come, if there are any more of them. You remember how Mr. Brandon located Cassey's sending station the first time."

Bob was as good as his word, and got in communication with the prison just before school time. The warden was gruff and inclined to be uncommunicative at first, but his manner changed remarkably after he heard of the radio message and he inquired eagerly for the slightest details.

"Yes, Cassey has escaped," he told Bob. "He got away about two months ago. He had behaved himself well for the first six months of his imprisonment, and we made him a trusty. In that capacity he had access to various parts of the prison and occasionally to my own quarters, which are in a wing connected with the prison. In some way that hasn't yet been discovered he got possession of clothes to cover his prison uniform and got away one day from the yard in which he was working. Probably with his help, two others got away at the same time. Their names are Jake Raff and Toppy Gillen, both of them desperate criminals and in for long terms. Likely enough the three of them are operating to-

gether somewhere. We made a careful search for them and have sent out descriptions of them to the police of all the important cities in the United States. But this clue of yours is the only one we have, and it may prove a most important one. I'll see that the Federal radio authorities are notified at once. Keep in touch with me and let me know if you come across anything else that seems to point to Cassey. His escape is a sore point with me, and I'd be glad to have him once more behind the bars. You can be sure he'll never get away again until he's served out the last day of his sentence."

With a warm expression of thanks the warden hung up his telephone receiver, and Bob hurried off to school to tell his comrades of what he had learned.

There was no chance for this, however, before recess, as he had been kept so long at the telephone that he was barely able to reach the school before the bell rang.

When at last he told them of his talk with the warden, they listened with spellbound interest.

"So the villain managed to escape, did he?" ruminated Joe. "That's a black mark against the warden, and it's no wonder he's anxious to get him back. I'd hate to be in Cassey's shoes if the prison gates ever close on him again."

"You'd think it would be a comparatively easy

matter to capture him," suggested Herb. "The fact that he stutters so badly makes him a marked man."

"You can bet that he doesn't do any more talking than he can help," replied Joe. "And, for that matter, I suppose there are a good many thousand stutterers in the United States. Almost every town has one or more. Of course it's against him, but it doesn't by any means make it a sure thing that he'll be nabbed."

Buck Looker and his cronies happened to pass them in the yard just at that moment and caught the last word. Buck whispered something to Carl Lutz, and the latter broke out into uproarious laughter.

It was so obviously directed against Joe that his impulsive temper took fire at once. He stepped up to the trio, despite Bob's outstretched hand that tried to restrain him.

"Were you fellows laughing at me?" he asked of the three, though his eyes were fastened directly on Buck's.

"Not especially at you," returned Buck insolently. "But at something you said."

"And what was that?" asked Joe, coming a step nearer, at which Buck stepped back a trifle.

"About getting nabbed," he said. "It made me think of some fellows I know that were nabbed last night for breaking windows."

"Oh, that was it!" remarked Joe, with dangerous calmness while his fist clenched. "Now let me tell you what it reminds me of. It makes me think of three cowards who smashed a window last night with a stone packed in a snowball and then ran away as fast as their legs could carry them. Perhaps you'd like me to tell you their names?"

"I don't know what you're talking about," retorted Buck, changing color.

"Oh, yes, you do," replied Joe. "And while I'm about it, I'll add that the fellows who smashed the window were not only cowards, but worse. And their names are Buck Looker, Carl Lutz and Terry Mooney."

"What's that?" cried Buck, bristling up, while an angry growl arose from his cronies.

"You heard me the first time," replied Joe; "but to get it into your thick heads I'll say it again. The cowards, and worse, I referred to are named Buck Looker, Carl Lutz and Terry Mooney."

CHAPTER V

MARVELS OF WIRELESS

"THAT'S fighting talk," blustered Buck, as he made a pretense of getting ready to throw off his coat.

"That's precisely what I want it to be," declared Joe, as he tore off his coat and threw it to the ground.

By this time most of the boys in the school yard had sensed the tenseness of the situation and had gathered around Joe and Buck, forming a ring many lines deep.

"A fight!" was the cry.

"Go in, Joe!"

"Soak him, Buck!"

Before Joe's determined attitude and flashing eyes, Buck wavered. He fingered his coat uncertainly and glanced toward the school windows.

"There's one of the teachers looking out," he declared. "And it's against the rules to fight on the school grounds. If it wasn't for that I'd beat you up."

There was a general snicker from the boys at Buck Looker's sudden regard for the rules of the school.

"Any other place you can think of where you'd like to beat me up?" said Joe sarcastically. "How about this afternon after school down by the river?"

"I—I've got to go out of town this afternoon," Buck stammered. "But don't you worry. I'll give you all the fight you're looking for the first chance I get."

Murmurs of derision arose from the crowd, and the flush on the bully's sour face grew much deeper.

"You're just a yellow dog, Buck!" exclaimed Joe, in disgust. "Have I got to pull your nose to make you stand up to me?"

He advanced toward him, and Buck retreated. What would have happened next will never be known, for just at that moment one of the teachers emerged from the school and came toward the ring. Hostilities at the moment were out of the question, and the boys began to scatter. Buck heaved a sigh of evident relief, and now that he felt himself safe, all his old bluster came back to him.

"It's mighty lucky for you that Bixby came out just then," he declared. "I was just getting ready to thrash you within an inch of your life."

Joe laughed sarcastically.

"The trouble with you, Buck, is that you spend so much time getting ready that you never have any time for real fighting," he remarked. "It took you an awfully long time to get your coat unbuttoned."

"They laugh best who laugh last," growled Buck. "And don't forget that you fellows have got to pay for that glass you broke."

"You've got another guess coming," replied Joe. "You or one of your gang broke that glass and we can prove it."

"I wasn't downtown that night at all," said Buck glibly.

"Don't add any more lies to your score," said Joe scornfully. "We've got you! You and your gang are the only fellows in town who would put stones in snowballs, anyway."

"If that's all the evidence you've got, it wouldn't go far in a court of law," sneered Buck. "Any judge would see that you were trying to back out of it by putting it up to somebody else."

"Perhaps you don't know that Mr. Talley bumped into you while you were running away," remarked Joe.

This shot told, for Buck had banked on the darkness and had forgotten all about his encounter with Mr. Talley. He had been nursing the comfortable assurance that all he had to do was

to deny. Now his house of cards had come tumbling about his ears. Mr. Talley was a respected citizen, and his word would be accepted by everybody.

Joe saw the effect of his remark and smiled drily.

"Want to revise that statement of yours that you weren't downtown at all last night?" he asked, with affected politeness.

"He—he was mistaken," stammered Buck weakly, as he walked away, followed by his discomfited cronies.

"I guess that will hold him for a while," chuckled Jimmy, as the radio boys watched his retreating figure.

Two or three days passed without special developments. The broken pane of glass had been restored and the parents of the boys had been formally notified by the insurance company that they would be held responsible jointly for the damages. A similar notice had been sent to the fathers of Buck and his mates.

Mr. Looker replied, denying that his son was at all implicated in the matter and refusing to pay. Mr. Layton admitted that his son had been throwing snowballs in front of the store on the night in question, but he stated that he had not thrown the ball with a stone in it that broke the

window. He added that any further communication regarding the matter could be sent to his lawyer.

Of the others involved, some had taken similar positions and others had ignored the matter altogether, leaving it to the insurance company to make the next move. And there for the time the matter rested.

The radio boys had missed Larry's performance on the night that he had opened with his new repertoire, but they were bound not to be cheated of the second, which took place only a few nights later.

They crowded eagerly about the radio set when their friend's turn was announced, and listened with a breathless interest, that was intensified by their warm personal regard for the performer, to the rendition of the cries of various animals with which Larry regaled them.

The imitations were so lifelike that the boys might well have imagined they were in a zoölogical garden. Lions, tigers, bears, elephants, snakes, moose, and other specimens of the animal and the reptile tribes were imitated with a fidelity that was amazing. In addition, the renditions were interspersed with droll and lively comments by Larry that added immensely to the humor of the performance. When at last it was over, the boys

broke out into enthusiastic hand-clapping that would have warmed Larry's heart, had he been able to hear it.

"The old boy is all there!" chortled Bob enthusiastically.

"He's a wonder!" ejaculated Joe. "No question there of a square peg in a round hole. He's found exactly the work in life he's specially fitted for."

"And think of the audience he has," put in Jimmy. "At this very minute there are probably hundreds of thousands of people who have been tickled to death at his performance. Just suppose those people all clapped their hands at once just as we have done and we could hear it. Why, it would be like a young earthquake."

At this moment the doorbell rang, and Dr. Dale was announced. He spent a few minutes with Mr. and Mrs. Layton, and then came up to have a little chat with the boys. This was one thing he never overlooked. His interest in and sympathy with the young were unbounded, and accounted largely for the influence that he exerted in the community.

The radio boys greeted the minister warmly and gladly made room for him around the table. His coming was never felt by them to be an interruption. They regarded him almost as one of themselves. Apart, too, from the thorough

liking they had for him as a man, they were exceedingly grateful to him for the help he had been to them in radio matters. He was their mentor, guide and friend.

"I knew I'd find you busy with the radio," he said, with a genial smile.

"We can't be torn away from it," replied Bob. "We think it's just the greatest thing that ever happened. Just now we've been listening to Larry Bartlett give his imitations of animals. You remember Larry?"

"I certainly do," replied Dr. Dale. "And I remember how you boys helped him get his present position. It was one of the best things you ever did. He's certainly a finished artist. I heard him on his opening night, and I've laughed thinking of it many times since. He's a most amusing entertainer."

It was the first opportunity the boys had had to tell the doctor of the night when Bob found that he was a human aerial, and he listened to the many details of the experiment with absorbed interest.

"It's something new to me," he said. "You boys have reason to be gratified at having had a novel experience. That's the beauty of radio. Something new is always cropping up. Many of the other sciences have been more or less fully explored, and while none of them will ever be

exhausted, their limits have been to some extent indicated. But in radio we're standing just on the threshold of a science whose infinite possibilities have not even been guessed. One discovery crowds so closely on the heels of another that we have all we can do to keep track of them.

"I've just got back from a little trip up in New York State," he went on, as he settled himself more comfortably in his chair, "and I stopped off at Schenectady to look over the big radio station there. By great good luck, Marconi happened to be there on the same day——"

"Marconi!" breathed Bob. "The father of wireless!"

"Yes," smiled Dr. Dale. "Or if you want to put it in another way, the Christopher Columbus who discovered the New World of radio. I counted it a special privilege to get a glimpse of him. But what attracted my special attention in the little while I could spend there was a small tube about eighteen inches long and two inches in diameter which many radio experts think will completely revolutionize long distance radio communication."

"You mean the Langmuir tube," said Joe. "I was reading of it the other day, and it seems to be a dandy."

"It's a wonderful thing," replied the doctor. "Likely enough it will take the place of the great

transatlantic plants which require so much room and such enormous machinery. It's practically noiseless. Direct current is sent into the wire through a complicated wire system and generates a high frequency current of tremendous power. I saw it working when it was connected with an apparatus carrying about fifteen thousand volts of electricity in a direct current. A small blue flame shot through the tube with scarcely a particle of noise. The broken impulse from the electrical generators behind the tube was sent through the tube to be flung off from the antenna into space in the dots and dashes of the international code. That little tube was not much bigger than a stick of dynamite, but was infinitely more powerful. I was so fascinated by it and all that it meant that it was hard work to tear myself away from it. It marks a great step forward in the field of radio."

"It must have been wonderfully interesting," remarked Bob. "And yet I suppose that in a year or two something new will be invented that will put even that out of date."

"It's practically certain that there will be," assented the doctor. "The miracles of to-day become the commonplaces of to-morrow. That fifty-kilowatt tube that develops twelve horsepower within its narrow walls of glass, wonderful as it is, is bound to be superseded by something

better, and the inventor himself would be the first one to admit it. Some of the finest scientific brains in the country are working on the problem, and he would be a bold prophet and probably a false prophet that would set any bounds to its possibilities.

"Radio is yet in its infancy," the doctor concluded, as he rose to go. "But one thing is certain. In the lifetime of those who witnessed its birth it will become a giant—but a benevolent giant who, instead of destroying will re-create our civilization."

CHAPTER VI

THE FOREST RANGER

Some days later Bob and Herb and Joe were on their way to Bob's house to do a little experimenting on the latter's set, when they were surprised at the alacrity with which Jimmy turned a corner and came puffing up to them.

"Say, fellows!" he yelled, as he came within earshot, "I've got some mighty interesting news for you."

"Let's have it," said Bob.

"It's about the snowball Buck fired through the window," panted Jimmy, falling into step beside them. "I met a man who's staying up at the Sterling House. He says Buck's the boy who did it, all right."

"How does he know?" all of the others asked with interest.

"Saw Buck pick up a stone and pack the snow hard around it," said Jimmy importantly. "He saw it himself, so we've got one witness for our side, all right."

"That's good," said Bob, adding, with a glint in his eye: "Say, wouldn't I like to get my hands on Buck, just for about five minutes!"

"Well, you won't have a chance," said Jimmy, enjoying being the bearer of so much news. "Buck's gone with his father to a lumber camp up in Braxton woods."

"How do you know all this?" inquired Herb curiously. "You seem to be chock full of information to-day."

"Oh, a little bird told me," said Jimmy, looking mysterious. However, as Herb made a threatening motion toward him, he hurried to explain. "I met Terry Mooney," he said. "I told him I knew all about who put the stone in the snowball and I told him that our crowd was going to make his look like two cents. He laughed and said swell chance we'd have. Said Buck had gone to the lumber camp with his father and that he and Carl Lutz were going to join him in a day or two. Just like Buck to run away when he knows there's a good licking coming to him!" added Jimmy, with a sneer.

"Oh, well, what do we care?" said Joe. "At least we sha'n't have those fellows around spoiling all the fun."

"I'm glad you found out about the snowball just the same," said Bob thoughtfully. "Every

little bit helps when we have to fight against that crooked gang of Buck's."

"Here's hoping," said Herb fervently, "that they stay away all the rest of the spring."

By this time the lads had reached Bob's house. It was Saturday afternoon, and as the boys crowded noisily into the hall Bob noticed that his father was in the library and that he seemed to have company.

He was starting upstairs with the other lads when his father came out of the library and called to him.

"Come on in for a few minutes, boys," he said. "I have a friend here who is a man after your own hearts," and his eyes twinkled. "He's interested in radio."

The boys needed no second invitation, for they never missed an opportunity of meeting any one who could tell them something about the wonders of radio.

Mr. Layton's guest was lounging in one of the great chairs in the library, and from the moment the boys laid eyes on him they knew they were going to hear something of more than usual interest.

The stranger was big, over six feet, and his face and hands were like a Cuban's, they were so dark. Even his fair hair seemed to have been

burnt a darker hue by the sun. There was a tang of the great out-of-doors about him, a hint of open spaces and adventure that fascinated the radio boys.

"This is my son, Mr. Bentley," said Mr. Layton to the lounging stranger, still with a twinkle in his eye. "And the other boys are his inseparable companions. Also I think they are almost as crazy about radio as you are."

The stranger laughed aud turned to Bob.

"I've been upstairs to see your set," he said, adding heartily: "It's fine. I've seldom seen better amateur equipment."

If Bob had liked this stranger before, it was nothing to what he felt for him now. To the radio boys, if any one praised their radio sets, this person, no matter who it was, promptly became their friend for life.

"I'm glad you think it's pretty good," Bob said modestly. "We fellows have surely worked hard enough over it."

"This gentleman here," said Mr. Layton to the boys, "ought to know quite a bit about radio. He operates an airplane in the service of our Government Forestry."

"In the United States Forest Service?" cried Bob, breathlessly, eyeing the stranger with increasing interest. "And is your airplane equipped with radio?"

"Very much so," replied Mr. Bentley. "It seems almost a fairy tale—what radio has done for the Forest Service."

"I've read a lot about the fighting of forest fires," broke in Joe eagerly. "But I didn't know radio had anything to do with it."

"It hadn't until the last few years," the visitor answered, adding, with a laugh: "But now it's pretty near the whole service!"

"Won't you tell us something about what you do?" asked Bob.

Mr. Bentley waved a deprecating hand while Mr. Layton leaned back in his chair with the air of one who is enjoying himself.

"It isn't so much what I do," protested this interesting newcomer, while the boys hung upon his every word. "It is what radio has done in the fighting of forest fires that is the marvelous, the almost unbelievable, thing. The man who first conceived the idea of bringing radio into the wilderness had to meet and overcome the same discouragements that fall to the lot of every pioneer.

"The government declared that the cost of carrying and setting up the radio apparatus would be greater than the loss occasioned every season by the terribly destructive forest fires. But there was a fellow named Adams who thought he knew better."

"Adams!" repeated Bob breathlessly. "Wasn't he the fellow who had charge of the Mud Creek ranger station at Montana?"

The visitor nodded and gazed at Bob with interest. "How did you know?" he asked.

"Oh, I read something about him a while ago," answered Bob vaguely. He was chiefly interested in having Mr. Bentley go on.

"I should think," said Herb, "that it would be pretty hard work carrying delicate radio apparatus into the lumber country."

"You bet your life it is," replied Mr. Bentley. "The only way the apparatus can be carried is by means of pack horses, and as each horse can't carry more than a hundred and fifty pounds you see it takes quite a few of the animals to lug even an ordinary amount of apparatus.

"The hardest part of the whole thing," he went on, warming to his recital as the boys were so evidently interested, "was packing the cumbersome storage batteries. These batteries were often lost in transit, too. If a pack horse happened to slip from the trail, its pack became loosened and went tumbling down the mountain side——"

"That's the life!" interrupted Jimmy gleefully, and the visitor smiled at him.

"You might not think so if you happened to be the one detailed to travel back over the almost

impassable trails for the missing apparatus," observed Mr. Bentley ruefully. "It wasn't all fun, that pioneer installation of radio. Not by any means."

"But radio turned the trick just the same," said Bob slangily. "I've read that a message that used to take two days to pass between ranger stations can be sent now in a few seconds."

"Right!" exclaimed Mr. Bentley, his eyes glinting. "In a little while the saving in the cost of forest fires will more than pay for the installation of radio. We nose out a fire and send word by wireless to the nearest station, before the fire fairly knows it's started."

"But just what is it that you do?" asked Joe, with flattering eagerness.

"I do scout work," was the reply. "I help patrol the fire line in cases of bad fires. The men fighting the fire generally carry a portable receiving apparatus along with them, and by that means, I, in my airplane, can report the progress of a fire and direct the distribution of the men."

"It must be exciting work," said Herb enviously. "That's just the kind of life I'd like—plenty of adventure, something doing every minute."

"There's usually plenty doing," agreed Mr. Bentley, with a likable grin. "We can't complain that our life is slow."

"I should think," said Bob slowly, "that it might be dangerous, installing sets right there in the heavy timber."

"That's what lots of radio engineers thought also," agreed Mr. Bentley. "But no such trouble has developed so far, and I guess it isn't likely to now."

"Didn't they have some trouble in getting power enough for their sets?" asked Joe, with interest.

"Yes, that was a serious drawback in the beginning," came the answer. "They had to design a special equipment—a sort of gasoline charging plant. In this way they were able to secure enough power for the charging of the storage batteries."

Bob drew a long breath.

"Wouldn't I have liked to be the one to fit up that first wireless station!" he cried enthusiastically. "Just think how that Mr. Adams must have felt when he received his first message through the air."

"It wasn't all fun," the interesting visitor reminded the boys. "The station was of the crudest sort, you know. The first operator had a box to sit on and another box served as the support for his apparatus."

"So much the better," retorted Bob stoutly.

"A radio fan doesn't know or care, half the time, what he's sitting on."

"Which proves," said Mr. Bentley, laughing, "that you are a real one!" And at this all the lads grinned.

"But say," interrupted Joe, going back to the problem of power, "weren't the engineers able to think up something to take the place of the gasoline charging stations?"

"Oh, yes. But not without a good deal of experimenting. Now they are using two hundred and seventy number two Burgess dry batteries. These, connecting in series, secure the required three hundred and fifty-volt plate current."

CHAPTER VII

RADIO AND THE FIRE FIEND

"WELL, I hope that the boys know what you're talking about," interrupted Mr. Layton at this point, his eyes twinkling, "for I'm sure I don't."

"They know what I'm talking about all right," returned his guest, admiration in his laughing eyes as he looked at the boys. "Unless I miss my guess, these fellows are the stuff of which radio experts are made. I bet they'll do great things yet."

"Won't you tell us more about your experiences?" begged Herb, while the other boys tried not to look too pleased at the praise. "It isn't often we have a chance to hear of adventures like yours first hand."

"Well," said Mr. Bentley, modestly, "I don't know that there's much to tell. All we scouts do is to patrol the country and watch for fires. Of course, in case of a big fire, our duties are more exciting. I remember one fire," he leaned back in his chair reminiscently and the boys listened

eagerly, hanging on every word. "It was a beauty of its kind, covering pretty nearly fourteen miles. Thousands of dollars' worth of valuable timber was menaced. It looked for a time as if it would get the better of us, at that.

"Men were scarce and there was a high wind to urge the fire on. A receiving set was rushed to the fire line, some of the apparatus in a truck and some carried by truck horses. My plane was detailed to patrol the fire line and give directions to the men who were fighting the fire."

He paused, and the boys waited impatiently for him to go on.

"The good old plane was equipped for both sending and receiving, and I tell you we patrolled that fourteen miles of flaming forest, sometimes coming so close to the tree tops that we almost seemed to brush them.

"My duty, of course, was to report the progress of the fire. Controlled at one point, it broke out at another, and it was through the messages from my 'plane to the ground set stationed just behind the fire line that the men were moved from one danger point to the next.

"Finally, the fire seeming nearly out along one side of the ridge, I sent the men to fighting it on the other side, where it had been left to rage uncontrolled. No sooner had the men scattered for the danger point than the brooding fire broke

out again and it was necessary to recall half the men.

"It was a long fight and a hard one, but with the aid of the blessed old wireless, we finally won out. As a matter of fact, the wireless-equipped airplane has become as necessary to the Forest Service as ships are to the navy.

"In the old days," he went on, seeing that the boys were still deeply interested, "when they depended upon the ordinary telephone to convey warnings of fires they were surely leaning upon a broken reed.

"Often, just when they needed the means of communication most, the fire would sweep through the woods, destroying trees to which the telephone wires were fastened, and melting the wires themselves. So the eyes of the Forest Service were put out and they were forced to work in the dark."

"But I should think," protested Bob, "that there would be times when even wireless would be put out of the job. Suppose the fire were to reach one of the stations equipped with wireless. What then?"

Mr. Bentley laughed as though amused at something.

"I can tell you an interesting incident connected with that," he said. "And one that shows the pluck and common sense of radio operators in

general—don't think that I'm throwing bouquets at myself, now, for first and last, I am a pilot, even if sometimes I find it necessary to employ radio.

"Well, anyway, this operator that I am speaking of, found himself in a perilous position. A fire had been raging for days, and now it was so close to his station that the station itself was threatened.

"One morning when he got up the smoke from the burning forest was swirling about the open space in front of the station and he knew that before long he would be seeing flame instead of smoke. The fire fighters had been working ceaselessly, fighting gallantly, but the elements were against them. The air was almost as dry and brittle as the wood which the flames lapped up and there was a steady wind that drove the fire on and on.

"If only there might come a fog or the wind change its direction! But the radio man had no intention of waiting on the elements. I don't believe he gave more than a passing thought to his own safety—his chief interest was for the safety of his beloved apparatus.

"He decided to dismantle the set, build a raft and set himself and the apparatus adrift upon the water in the attempt to save it.

"And so he worked feverishly, while the fire

came closer and he could hear the men who were fighting the fire shouting to each other. Finally he succeeded in dismantling the set and got it down to the water's edge.

"Here he built a rough raft, piled the apparatus upon it, jumped after it, and drifted out into the middle of the lake."

"Did the station burn down?" asked Jimmy excitedly.

"No, fortunately. The wind died down in the nick of time, giving the men a chance to control the blaze. When it was evident the danger was past, the operator set up his apparatus again and prepared to continue his duties, as though nothing had happened.

"There you have the tremendous advantage of radio. There were no wires to be destroyed. Only a radio set which could be dismantled and taken to safety while the fire raged."

"That operator sure had his nerve with him, all right," said Bob admiringly.

"More nerve than common sense perhaps," chuckled Mr. Bentley. "But you certainly can't help admiring him. He was right there when it came to grit."

After a while they began to discuss technicalities, and the boys learned a great many things they had never known before. The pilot happening to mention that there were sometimes a num-

ber of airplanes equipped with radio operating within a restricted district, Joe wanted to know if they did not have a good deal of trouble with interference.

"No. There was at first some interference by amateurs, but these soon learned to refrain from using their instruments during patrol periods.

"You see," he explained, "we use a special type of transmitting outfit aboard our fire-detection craft. It's called the SCR-Seventy-three. The equipment obtains its power from a self-excited inductor type alternator. This is propelled by a fixed wooden-blade air fan. In the steam-line casing of the alternator the rotary spark gap, alternator, potential transformer, condenser and oscillation transformer are self-contained. Usually the alternator is mounted on the under-side of the fuselage where the propeller spends its force in the form of an air stream. The tele-graph sending keys, field and battery switch, dry battery, variometer and antenna reel are the only units included inside the fuselage.

"The type of transmitter is a simple rotary gap, indirectly excited spark and provided with nine taps on the inductance coil of the closed oscillat-ing circuit. Five varying toothed discs for the rotary spark gap yield five different signal tones and nine different wave lengths are possible.

"So," he finished, looking around at their ab-

sorbed faces, "you see it is quite possible to press into service a number of airplanes without being bothered by interference."

"It sounds complete," said Bob. "I'd like a chance to see one of those sets at close range sometime."

The time passed so quickly that finally the visitor rose with an apology for staying so late. The radio boys were sorry to see him go. They could have sat for hours more, listening to him.

"That fellow sure has had some experiences!" said Joe, as, a little later, the boys mounted the stairs to Bob's room. "It was mighty lucky we happened along while he was here."

"You bet your life," said Herb. "I wouldn't have missed meeting him for a lot."

"Say, fellows," Jimmy announced from the head of the stairs, "I know now what I'm going to do when I'm through school. It's me for the tall timber. I'm going to pilot an airplane in the service of my country."

"Ain't he noble?" demanded Herb, grinning, as the boys crowded into Bob's room.

CHAPTER VIII

NEAR DISASTER

SEVERAL days later while the radio boys were experimenting with their big set and talking over their interesting meeting with the Forest Service ranger, Herb displayed an immense horseshoe magnet.

"Look what he's got for luck," chortled Jimmy. "The superstitious nut!"

"Superstitious nothing!" snorted Herb. "If I'd wanted it for luck I wouldn't have got a magnet, would I? Any old common horseshoe would have done for luck."

"Well, what's the big idea?" asked Bob, looking up from the audion tube he was experimenting with. "Or is there any?" he added, with a grin.

"You bet your life there is!" returned Herb. "It's got to do with that very audion tube you're fussing with."

"Ah, go on," jeered Joe, good-naturedly. "What's a magnet got to do with an audion tube, I'd like to know!"

"Poor old Herb," added Jimmy, with a commiserating shake of the head.

"Say, look here, all you fellows! Don't you go wasting any pity on me," cried Herb hotly. "If you don't look out, I won't show you my experiment at all."

"Go on, Herb," said Bob consolingly. "I'm listening."

"Well, I'm glad there's one sensible member of this bunch!" cried Herb, and from then on addressed himself solely to Bob. "Look here," he said. "You can make the audion tube ever so much more sensitive to vibration if you put this magnet near it."

"Who says so?" asked Bob, with interest.

"I do. Here, put on the headphones and listen. I'll prove it to you."

Bob obeyed and tuned in to the nearest broadcasting station where a concert was scheduled. As soon as he signified by a nod of his head that the connection was satisfactory Herb placed the big horseshoe magnet in such a position that the poles of the magnet were on each side of the tube.

Sure enough, Bob was amazed at the almost magical improvement in the sound. It was clearer, more distinct, altogether more satisfactory. He listened in for another moment then

wonderingly took off the headphones while Herb grinned at him in triumph.

"Well, what do you think?" asked the latter while Joe and Jimmy looked at them curiously.

"Think?" repeated Bob, still wonderingly. "Why, there's only one thing to think, of course. That fool horseshoe of yours, Herb, is one wonderful improvement. I don't know how it works, but it surely is a marvel."

Herb glanced at Jimmy and Joe in triumph.

"What did I tell you?" he said. "Perhaps now you'll believe that my idea wasn't such a fool one after all."

"But what did it do, Bob?" asked Joe, mystified.

"It increased the sensitivity of that old audion tube, that's what it did," replied Bob, absently, his mind already busy with inventive thoughts. "I can't see yet just how it accomplished it, but the connection with the station was certainly clearer and more distinct than usual."

"But how can a magnet increase the sensitivity of a vacuum tube?" asked Jimmy, not yet wholly convinced. "It doesn't make sense."

"Well, I don't see why not," contradicted Joe slowly. "I suppose the improvement is due to the magnetic effect of the magnet upon the electrons flowing from the filament to the plate. I don't

exactly see why it should be an improvement, but if it is, then there must be some reason for it."

"I wish we could find the reason!" cried Bob excitedly. "If we could make some improvement upon the vacuum tube——"

"Don't wake him up, he is dreaming!" cried Herb. "If you don't look out, old boy, you'll have us all millionaires."

"Well, there are worse things," retorted Bob, taking the magnet from Herb's hand and placing it near the tube. "This has given us something to think about, anyway."

For a while they puzzled over the mystery, trying to find some way in which the discovery might be made to serve a practical purpose—all except Herb, who retired to one corner of the "lab" to fuss with some chemicals which he fondly hoped might be used in the construction of a battery.

So engrossed were the boys in the problem of the magnet and vacuum tube that they forgot all about Herb and his experiments. So what happened took them completely off their guard.

There was a sudden cry from Herb, followed closely by an explosion that knocked them off their feet. For a moment they lay there, a bit dazed by the shock. Then they scrambled to their feet and looked about them. Herb, being the nearest to the explosion, had got the worst of

it. His face and hands were black and he was shaking a little from the shock. He gazed at the boys sheepishly.

"Wh-what happened?" asked Jimmy dazedly.

"An earthquake, I guess," replied Bob, as he looked about him to see what damage had been done.

Some doughnuts, which their namesake had recently fetched from the store, lay scattered upon the floor, together with some rather dilapidated-looking pieces of candy, but aside from this, nothing seemed to have been damaged seriously.

Jimmy's followed Bob's gaze, and, finding his precious sweets upon the floor, began gathering them up hastily, stuffing a doughnut in his mouth to help him hurry. What mattered it to Jimmy that the floor was none too clean?

"Say, what's the big idea, anyway," Joe demanded of the blackened Herb. "Trying to start a Fourth of July celebration, or something?"

"I was just mixing some chemicals, and the result was a flare-up," explained Herb sulkily. "Now, stop rubbing it into a fellow, will you? You might know I didn't do it on purpose."

Bob began to laugh.

"Better get in connection with some soap and water, Herb," he said. "Just now you look like the lead for a minstrel show."

"Never mind, Herb," Joe flung after the dis-

consolate scientist as he made for the door. "As long as you don't hurt anything but Jimmy's doughnuts, we don't care. You can have as many explosions as you like."

"Humph, that's all right for you," retorted Jimmy. "But I'll have you know I spent my last nickel for those doughnuts."

"Just the same," said Bob soberly, as they returned to the problem of the vacuum tube, "we're mighty lucky to have come off with so little damage. Mixing chemicals is a pretty dangerous business unless you know just what you're doing."

"And even then it is," added Joe.

CHAPTER IX

A HAPPY INSPIRATION

THE days passed by, the boys becoming more and more engrossed in the fascination of radio all the time. They continued to work on their sets, sometimes with the most gratifying results, at others seeming to make little headway.

But in spite of occasional discouragements they worked on, cheered by the knowledge that they were making steady, if sometimes slow, progress.

There were so many really worth-while improvements being perfected each day that they really found it difficult to keep up with them all.

"Wish we could hear Cassey's voice again," said Herb, one day when they had tuned in on several more or less interesting personal messages.

"I don't know what good it would do us," grumbled Joe. "If he speaks always in code he could keep us guessing till doomsday."

"He's up to some sort of mischief, anyway," said Bob; "and I, for one, would enjoy catching him at it again."

"We would be more comfortable to have Dan Cassey in jail, where he belongs," observed Jimmy.

But just at present the trailing of that stuttering voice seemed an impossible feat even for the radio boys. If they could only get some tangible clue to work on!

They saw nothing of Buck Looker or his cronies about town, and concluded that they were still at the lumber camp.

"Can't stay away too long to suit me," Bob said cheerfully.

It was about that time that Bob found out about Adam McNulty. Adam McNulty was the blind father of the washerwoman who served the four families of the boys.

Bob went to the McNulty cabin, buried in the most squalid district of the town, bearing a message from his mother. When he got there he found that Mr. McNulty was the only one at home.

The old fellow, smoking a black pipe in the bare kitchen of the house, seemed so pathetically glad to see some one—or, rather, to hear some one—that Bob yielded to his invitation to sit down and talk to him.

And, someway, even after Bob reached home, he could not shake off the memory of the lonesome old blind man with nothing to do all day

long but sit in a chair smoking his pipe, waiting for some chance word from a passer-by.

It did not seem fair that he, Bob, should have all the good things of life while that old man should have nothing—nothing, at all.

He spoke to his chums about it, but, though they were sympathetic, they did not see anything they could do.

"We can't give him back his eyesight, you know," said Joe absently, already deep in a new scheme of improvement for the set.

"No," said Bob. "But we might give him something that would do nearly as well."

"What do you mean?" they asked, puzzled.

"Radio," said Bob, and laid his hand lovingly on the apparatus. "If it means a lot to us, just think how much more it would mean to some one who hasn't a thing to do all day but sit and think. Why, I don't suppose any of us who can see can begin to realize what it would mean not to be able even to read the daily newspaper."

The others stared at Bob, and slowly his meaning sank home.

"I get you," said Joe slowly. "And say, let me tell you, it's a great idea, Bob. It wouldn't be so bad to be blind if you could have the daily news read to you every day——"

"And listen to the latest on crops," added Jimmy.

"To say nothing of the latest jazz," finished Herb, with a grin.

"Well, why doesn't this blind man get himself a set?" asked Jimmy practically. "I should think every blind person in the country would want to own one."

"I suppose every one of them does," said Bob. "And Doctor Dale said the other day that he thought the time would come when charities for the blind would install radio as a matter of humanity, and that prices of individual sets would be so low that all the blind could afford them. The blind are many of them old, you know, and pretty poor."

"You mean," said Herb slowly, "that most of the blind folks who really need radio more than anybody else can't afford it? Say, that doesn't seem fair, does it?"

"It isn't fair!" cried Bob, adding, eagerly: "I tell you what I thought we could do. There's that old set of mine! It doesn't seem much to us now, beside our big one, but I bet that McNulty would think it was a gold mine."

"Hooray for Bob!" cried Herb irrepressibly. "Once in a while he really does get a good idea in his head. When do we start installing this set in the McNulty mansion, boys?"

"As soon as you like," answered Bob. "Tomorrow's Saturday, so we could start early in the

morning. It will probably take us some time to rig up the antenna."

The boys were enthusiastic about the idea, and they wasted no time putting it into execution. That very night they looked up the old set, examining it to make sure it was in working order.

When they told their families what they proposed to do, their parents were greatly pleased.

"It does my heart good," said Mr. Layton to his wife, after Bob had gone up to bed, "to see that those boys are interested in making some one besides themselves happy."

"They're going to make fine men, some day," answered Mrs. Layton softly.

The boys arrived at the McNulty cottage so early the next morning that they met Maggie McNulty on her way to collect the day's wash.

When they told her what they were going to do she was at first too astonished to speak and then threatened to fall upon their necks in her gratitude.

"Shure, if ye can bring some sunshine into my poor old father's dark life," she told them in her rich brogue, tears in her eyes, "then ye'll shure win the undyin' gratitude uv Maggie McNulty."

It was a whole day's job, and the boys worked steadily, only stopping long enough to rush home for a bit of lunch.

They had tried to explain what they were doing to Adam McNulty, but the old man seemed almost childishly mystified. It was with a feeling of dismay that the boys realized that, in all probability, this was the first time the blind man had ever heard the word radio. It seemed incredible to them that there could be anybody in the world who did not know about radio.

However, if Adam McNulty was mystified, he was also delightedly, pitifully excited. He followed the boys out to the cluttered back yard where they were rigging up the aerial, listening eagerly to their chatter and putting in a funny word now and then that made them roar with laughter.

Bob brought him an empty soap box for a seat and there the old man sat hour after hour, despite the fact that there was a chill in the air, blissfully happy in their companionship. He had been made to understand that something pleasant was being done for him, but it is doubtful if he could have asked for any greater happiness than just to sit there with somebody to talk to and crack his jokes with.

They were good jokes too, full of real Irish wit, and long before the set was ready for action the boys had become fond of the old fellow.

"He's a dead game sport," Joe said to Bob, in that brief interval when they had raced home for

lunch. "I bet I'd be a regular old crab, blind like that."

Mrs. Layton put up an appetizing lunch for the blind man, topping it off with a delicious home-made lemon pie and a thermos bottle full of steaming coffee.

The way the old man ate that food was amazing even to Jimmy. Maggie was too busy earning enough to keep them alive to bother much with dainties. At any rate, Adam ate the entire lemon pie, not leaving so much as a crumb.

"I thought I was pretty good on feeding," whispered Joe, in a delighted aside, "but I never could go that old bird. He's got me beat a mile."

"Well," said Jimmy complacently, "I bet I'd tie with him."

If the boys had wanted any reward for that day of strenuous work, they would have had it when, placing the earphones upon his white head, they watched the expression of McNulty's face change from mystification to wonder, then to beatific enjoyment.

He listened motionless while the exquisite music flooded his starved old soul. Toward the end he closed his eyes and tears trickled from beneath the lids down his wrinkled face. He brushed them off impatiently and the boys noticed that his hand was trembling.

It was a long, long time before he seemed to be aware that there was any one in the room with him. He seemed to have completely forgotten the boys who had bestowed this rare gift upon him.

After a while, coming out of his dream, the old man began fumbling with the headphones as if he wanted to take them off, and Bob helped him. The man tried to speak, but made hard work of it. Emotion choked him.

"Shure, an' I don't know what to make of it at all, at all," he said at last, in a quivering voice. "Shure an' I thought the age of miracles was passed. I'm only an ignorant old man, with no eyes at all; but you lads have given me something that's near as good. Shure an' it's an old sinner I am, for shure. Many's the day I've sat here, prayin' the Lord would give me wan more minute o' sight before I died, an' it was unanswered my prayers wuz, I thought. It's grateful I am to yez, lads. It's old Adam McNulty's blessin' ye'll always have. An' now will yez put them things in my ears? It's heaven's own angels I'd like to be hearin' agin. That's the lad—ah!"

And while the beatific expression stole once more over his blind old face the boys stole silently out.

CHAPTER X

THE ESCAPED CONVICT

THE boys saw a good deal of Adam McNulty in the days that followed, and the change in the old man was nothing short of miraculous.

He no longer sat in the bare kitchen rocking and smoking his pipe, dependent upon some passer-by for his sole amusement. He had radio now, and under the instruction of the boys he had become quite expert in managing the apparatus. Although he had no eyes, his fingers were extraordinarily sensitive and they soon learned to handle the set intelligently.

His daughter Maggie, whose gratitude to the boys knew no bounds, looked up the radio program in the paper each day and carefully instructed her father as to just when the news reports were given out, the story reading, concerts, and so forth.

And so the old blind man lived in a new world —or rather, the old world which he had ceased to live in when he became blind—and he seemed

actually to grow younger day by day. For radio had become his eyes.

Doctor Dale heard of this act of kindness on the part of the boys and he was warm in his praise.

"Radio," he told the boys one day when he met them on the street, "is a wonderful thing for those of us that can see, but for the blind it is a miracle. You boys have done an admirable thing in your kindness to Adam McNulty, and I hope that, not only individuals, but the government itself will see the possibilities of so great a charity and follow your example."

The boys glowed with pride at the doctor's praise, and then and there made the resolve that whenever they came across a blind person that person should immediately possess a radio set if it lay within their power to give it to him.

On this particular day when so many things happened the boys were walking down Main Street, talking as usual of their sets and the marvelous progress of radio.

Although it was still early spring, the air was as warm almost as it would be two months later. There was a smell of damp earth and pushing grass in the air, and the boys, sniffing hungrily, longed suddenly for the freedom of the open country.

"Buck and his bunch have it all their own

way," said Herb discontentedly. "I wouldn't mind being up in a lumber camp myself just now."

"Too early for the country yet," said Jimmy philosophically. "Probably be below zero tomorrow."

"What you thinking about, Bob?" asked Joe, noticing that his chum had been quiet for some time.

"I was thinking," said Bob, coming out of his reverie, "of the difference there has been in generators since the early days of Marconi's spark coil. First we had the spark transmitters and then we graduated to transformers——"

"And they still gave us the spark," added Joe, taking up the theme. "Then came the rotary spark gap and later the Goldsmith generator——"

"And then," Jimmy continued cheerfully, "the Goldsmith generator was knocked into a cocked hat by the Alexanderson generator."

"They'll have an improvement on that before long, too," prophesied Herb.

"They have already," Bob took him up quickly. "Don't you remember what Doctor Dale told us of the new power vacuum tube where one tube can take care of fifty K. W.?"

"Gee," breathed Herb admiringly, "I'll say that's some energy."

"Those same vacuum tubes are being built

right now," went on Bob enthusiastically. "They are made of quartz and are much cheaper than the alternators we're using now."

"They are small too, compared to our present-day generators," added Joe.

"You bet!" agreed Bob, adding, as his eyes narrowed dreamily: "All the apparatus seems to be growing smaller these days, anyway. I bet before we fellows are twenty years older, engineers will have done away altogether with large power plants and cumbersome machinery."

"I read the other day," said Joe, "that before long all the apparatus needed, even for trans-atlantic stations, can be contained in a small room about twenty-five feet by twenty-five."

"But what shall we do for power?" protested Herb. "We'll always have to have generators."

"There isn't any such word as 'always' in radio," returned Bob. "I shouldn't wonder if in the next twenty or thirty years we shall be able, by means of appliances like this new power vacuum tube, to get our power from the ordinary lighting circuit."

"And that would do away entirely with generators," added Joe triumphantly.

"Well, I wouldn't say anything was impossible," said Herb doubtfully. "But that seems to me like a pretty large order."

"It is a large order," agreed Bob, adding with

conviction: "But it isn't too large for radio to fill."

"Speaking of lodging all apparatus in one fair-sized room," Joe went on. "I don't see why that can't really be done in a few years. Why, they say that this new power vacuum tube which handles fifty K. W. is not any larger than a desk drawer."

"I see the day of the vest-pocket radio set coming nearer and nearer, according to you fellows," announced Herb. "Pretty soon we'll be getting our apparatus so small we'll need a microscope to see it."

"Laugh if you want to," said Bob. "But I bet in the next few years we're going to see greater things done in radio than have been accomplished yet."

"And that's saying something!" exclaimed Joe, with a laugh.

"I guess," said Jimmy thoughtfully, "that there have been more changes in a short time in radio than in any other science."

"I should say so!" Herb took him up. "Look at telephone and telegraph and electric lighting systems. There have been changes in them, of course, but beside the rapid-fire changes of radio, they seem to have been standing still."

"There haven't been any changes to speak of in the electric lighting systems for the last fifteen

years or more," said Bob. "And the telephone has stayed just about the same, too."

"There's no doubt about it," said Joe. "Radio has got 'em all beat as far as a field for experiment is concerned. Say," he added fervently, "aren't you glad you weren't born a hundred years ago?"

The boys stopped in at Adam McNulty's cabin to see how the old fellow was getting along. They found him in the best of spirits and, after "listening in" with him for a while and laughing at some of his Irish jokes, they started toward home.

"I wish," said Bob, "that we could have gotten a line on Dan Cassey. "It seems strange that we haven't been able to pick up some real clue in all this time."

For, although the boys had caught several other mysterious messages uttered in the stuttering voice of Dan Cassey, they had not been able to make head nor tail of them. The lads liked mysteries, but they liked them chiefly for the fun of solving them. And they seemed no nearer to solving this one than they had been in the beginning.

"I know it's a fool idea," said Herb sheepishly. "But since we were the ones that got Cassey his jail sentence before, I kind of feel as if we were responsible for him."

"It's pretty lucky for us we're not," remarked Joe. "We certainly would be up against it."

On and on the boys went. Presently Joe began to whistle and all joined in until suddenly Jimmy uttered a cry and went down on his face.

"Hello, what's wrong?" questioned Bob, leaping to his chum's side.

"Tripped on a tree root," growled Doughnuts, rising slowly. "Gosh! what a spill I had."

"Better look where you are going," suggested Herb.

"I don't see why they can't chop off some of these roots, so it's better walking."

"All right—you come down and do the chopping," returned Joe, lightly.

"Not much! The folks that own the woods can do that."

"Don't find fault, Jimmy. Remember, some of these very roots have furnished us with shinny sticks."

"Well, not the one I tripped over."

It was some time later that the boys noticed that they had tramped further than they had intended. They were on the very outskirts of the town, and before them the heavily-wooded region stretched invitingly.

Jimmy, who, on account of his plumpness, was not as good a hiker as the other boys, was for turning back, but the other three wanted to go on.

And, being three against one, Jimmy had not the shadow of a chance of getting his own way.

It was cool in the shadows of the woods, and the boys were reminded that it was still early in the season. It was good to be in the woods, just the same, and they tramped on for a long way before they finally decided it was time to turn back.

They were just about to turn around when voices on the path ahead of them made them hesitate. As they paused three men came into full view, and the boys stood, staring.

Two of the men they had never seen before, but the other they knew well. It was the man whose voice they had been trailing all these weeks —Dan Cassey, the stutterer!

CHAPTER XI

DOWN THE TRAP DOOR

It seemed that in the semi-darkness of the woods Cassey did not at once recognize the radio boys. He was talking excitedly to his companions in his stuttering tongue and he was almost upon the boys before he realized who they were.

He stopped still, eyes and mouth wide open. Then, with a stuttered imprecation, he turned and fled. The men with him stayed not to question, but darted furtively into the woods.

"Come on, fellows!" cried Bob, with a whoop of delight. "Here's where we nail Dan Cassey, sure."

The boys, except poor Jimmy, were unusually fleet, and they soon overtook Cassey. Bob's hand was almost upon him when the man doubled suddenly in his tracks and darted off into the thick underbrush.

Bob, with Herb and Joe close at his heels, was after him in a minute. He reached a clearing

just in time to see Cassey dash into an old barn which had been hidden by the trees.

The boys plunged into the barn with Jimmy pantingly bringing up the rear. In Bob's heart was a wild exultation. They had Cassey cornered. Once more they would bring this criminal to justice.

"You guard the door," he called in a low tone to Joe. "See that Cassey doesn't get out that way, and Herb and I will get after him in here."

The barn was so dark that they could hardly see to move around. There was a window high up in the side wall, but this was so covered with dirt and cobwebs that it was almost as though there was none.

However, Cassey must be lurking in one of those dark corners, and if they moved carefully they were sure to capture him!

There was a loft to the barn, but if there had been a ladder leading up to it it had long since rotted and dropped away, so that Bob was reasonably sure the man could not be up there.

It was eery business, groping about in the musty darkness of the old barn for a man who would go to almost any lengths of villainy to keep from being caught.

Suddenly Bob saw something move, and, with an exultant yell, jumped toward it. Once more

he almost had his hand upon Cassey when—something happened.

The floor of the barn seemed to open and let him through, and his chums with him. As he fell through the hole into blackness he had confused thoughts of an earthquake. Then he struck bottom with a solid thump that almost made him see stars.

He heard similar thumps about him and realized that Herb and Jimmy had followed him. Whatever it was they had shot through had evidently magically closed up again, for they were in absolute darkness.

"Well," came in a voice which Bob recognized as Jimmy's, "I must say, this is a nice note!"

"We've been pushed off the end of the world, I guess," said Herb, with a sorry attempt at humor. "Who all's in this party anyway? Are we all here?"

"I guess so," said Joe, and at the sound of his voice Bob jumped.

"What are you doing here?" he asked. "I thought you were going to guard the door."

"That's what I should have done, but I played the big idiot," retorted Joe bitterly. "I couldn't resist coming after you fellows to be in on the big fight. I suppose while I was trailing you boys somebody sneaked in the door and signed our finish."

"Looks like it," said Bob, feeling himself to make sure there were no bones broken. "And now, instead of delivering Cassey to justice we're prisoners ourselves. Say, I bet the old boy isn't laughing at us or anything just now."

"I'm awful sorry, Bob," said Joe penitently. "I thought if I kept my eye on the door——"

"Oh, it's all right," said Bob generously. "Accidents will happen and there's no use crying over spilled milk. I suppose the most sensible thing for us to do right now is to hustle around and find a way out of this place."

"Maybe there isn't any," said Jimmy dolefully. "Then what'll we do?"

"Stay here and let the rats eat us, I guess," said Herb cheerfully, and Jimmy groaned.

"Gosh, don't talk about eating, old boy," he pleaded. "I'm just about starved this minute."

"You'll probably stay starved for some little time longer," said Bob unfeelingly. He had risen cautiously to his feet, and finding that their prison was at least high enough for them to stand up in, reached his hands tentatively above his head.

As, even by standing on tiptoe, his fingers encountered nothing but air, he decided that they must have dropped further than he had thought at the time.

A hand reached out and took hold of him and he realized that Joe was standing beside him.

"Must have been some sort of trap door opening inward, I guess," said the latter. "You didn't see anything, did you, Bob?"

"No. It happened too suddenly. One minute I was reaching forward to grab hold of Cassey and the next moment I found myself flying through space."

"Humph," grunted Joe. "It was lucky for Cassey that we all happened to be in a bunch," he said. He couldn't have gotten rid of us so quickly if we'd been scattered about——"

"As we should have been," added Bob. "Just the same," he added, after a minute, "I don't suppose it would have done any good if one of us had been left up there. It must have been the men who were with Cassey who sprang the trap on us; and if that's so, the fight would have been three to one."

"I'd like to have tried it just the same," said Joe belligerently. "I bet Cassey would have got a black eye out of it, anyway."

For some time they groped around the black hole of their prison, hoping to find some way of escape, but without success. They were beginning to get tired and discouraged, and they sat down on the floor to talk the situation over.

The queer thing about this hole in the ground was that it possessed a flooring where one would have expected to find merely packed-down dirt. The flooring consisted of rough boards laid side by side, and when the boys moved upon it it sounded like the rattling of some rickety old bridge.

"There's some mystery about this place," said Bob. "I bet this is a regular meeting place for Cassey and whoever his confederates may be. In case of pursuit all they would have to do would be to hide in this hole and they'd be practically safe from discovery."

"I wonder," said Herb, "why Cassey didn't do that now."

"Probably didn't have time," said Bob. "I was right on his heels, you know, and probably he didn't dare stop for anything."

"And so they turned the trick on us," said Joe. "And it sure was a neat job."

"Too neat, if we don't get out of here soon," groaned Jimmy. "I bet they've just left us here to starve!"

"I wouldn't put it beyond Cassey," said Herb gloomily. "It would be just the kind of thing he'd love to do. He's got a grudge against us, anyway, for doing him out of Miss Berwick's money and landing him in jail, and this would be a fine way to get even."

"Well, if that's his game, he's got another guess coming," said Bob, adding excitedly: "Say, fellows, if that was a trap door that let us down into this hole, and it must have been something of that sort, we'll probably be able to get out the same way."

"But it's above our heads," protested Herb.

"What difference does that make?" returned Bob impatiently. "One of us can stand on the other's back, and we can haul the last fellow out by his hands."

"Simple when you say it quick," said Joe gloomily. "But I bet that trap door is bolted on the outside. You don't think Cassey's going to let us off that easy, do you?"

"Well, we could see anyway," returned Bob. "Anything's better than just sitting here. Come on, let's find that trap door."

This feat, in itself, was no easy one. They had wandered about in the dark so much that they had become completely confused.

Since Herb was the slightest, he was hoisted up on Bob's shoulders and they began the stumbling tour of their prison. It seemed ages before Herb's glad cry announced a discovery of some sort.

"I've found a handle," he said. "Steady there, Bob, till I give it a pull."

CHAPTER XII

GROPING IN DARKNESS

HERB tugged gently and gave another yell of delight when whatever was attached to the handle yielded grudgingly to the pull.

"It's the trap door, fellows!" he cried. "Move over a bit, Bob, till I pull the thing down."

Bob, who, about this time, was finding Herb's weight not any too comfortable, moved over, and, in doing so, stumbled, nearly pitching himself and Herb to the floor.

As it was, Herb lost his balance and leaped wildly. He landed on his feet and reached out a hand to find Bob.

"Of all the tough luck," he groaned. "There I had the thing in my hand and now we've gone and lost it again."

"Sorry. But stop your groaning and get busy," Bob commanded him. "I haven't moved from this spot, so if you get up on my shoulders again you ought to be able to get hold of the handle easily enough."

So, hoisted and pushed by Joe and Jimmy, Herb finally regained his perch and felt for the handle. He found it, and this time pulled the door so far open that the boys could see through the opening in the barn floor.

"If somebody can hold that door," panted Herb, "I think I can get through this hole. Grab hold, boy. It sure is heavy."

So Joe caught the door as it swung downward and Herb scrambed through the aperture. Bob gave a grunt of relief as the weight was taken from his shoulders.

"You're next, Joe," Bob was saying when Jimmy came stumbling up, carrying something that banged against Bob's legs.

"I've got it," he panted. "Had an idea I might find something like it. Trust your Uncle Jimmy——"

"For the love of butter, what are you raving about?" interrupted Joe, and Jimmy proudly exhibited his prize.

"A soap box," he said. "And a good big one, too. If we stand on that we can reach the opening easily."

"Good for you, Doughnuts," cried Bob, joyfully seizing upon the soap box. "This beats playing the human footstool all hollow. Jump up on it, Jimmy, and see how quick you can get out of here."

Jimmy needed no second invitation. He scrambled up on the tall box, and by stretching up on tip toe could just manage to get his fingers over the edge of the flooring above.

"Give me a boost, some one," he commanded, and Bob obligingly administered the boost.

Joe was next. Bob went last, holding the trap door with his foot to keep it from closing too quickly. Once upon the floor of the barn he took his foot away and the door banged to with a snap, being balanced by a rope and weight above.

"Well, there's that!" exclaimed Bob, eyeing the closed door with satisfaction. "If Cassey thought he was going to fool us long, he sure was mistaken."

"Maybe he's hiding around here somewhere," suggested Herb, lowering his voice to a whisper.

"No such luck," replied Bob. "I'd be willing to wager that the moment we struck bottom there, Cassey and his friends beat it away from here as fast as their legs could take them."

"Don't you think we'd better look around a little bit, anyway?" suggested Joe.

"It wouldn't do any harm," agreed Bob. "But first let's have a look outside. We don't want to overlook any clues."

The boys thrashed around the bushes about the barn until they were satisfied no one was hiding

there and then returned to the barn. They were curious to find out just how they had been shot through that trap door.

They thought at first that it was perhaps worked by some sort of apparatus, but they found that this was not the case. They found by experimenting that the trap door yielded easily to their weight, and decided that it had been their combined rush upon Cassey that had done the trick. The weight of the four of them upon it had shot the door down so rapidly that they had not had time even to know what was happening to them, much less scramble to safety. Then it had shut on them.

"It couldn't have worked better for them," said Herb, as they turned toward the door of the barn. "I bet they're laughing yet at the way they put things over."

"Let 'em laugh," said Bob, adding fiercely: "But I bet you anything that the last laugh will be ours!"

"I wonder what Cassey was doing here, anyway," said Jimmy, as they walked slowly homeward. "It was lucky, wasn't it, that we happened along when we did?"

"I don't see where it's so lucky," grumbled Joe. "We're no nearer catching him now than we ever were."

"Except that we know he's around this

locality," put in Bob. "I guess the police will be glad to know that."

"Oh! are you going to tell the police?" asked Jimmy, whose thoughts had been upon what he was going to get for dinner.

"Of course," said Bob. "He's an escaped criminal, and it's up to us to tell the police all we know about him."

"I only wish we knew more to tell," said Joe disconsolately.

Since they had been flung through the trap door, Joe had called himself every unpleasant name he could think of for his carelessness. If he had stayed at the door where he belonged, there would have been one of them left to grapple with Dan Cassey. Probably the two men who had been with Cassey when they had surprised him had not been anywhere around. They belonged to the type of criminal that always thinks of its own safety first. Probably they had not been anywhere near the barn. And if it had been only Dan Cassey and himself, well, he, Joe, could at least have given the scoundrel a black eye—maybe captured him.

He said something of this to his chums, but they laughed at him.

"Stop your grouching," said Bob. "Haven't we already agreed that there's no use crying over

spilled milk? And, anyway, you just watch out. We'll get Cassey yet."

As soon as the boys reached town they went straight to the police station and told the story of their encounter with Cassey to the grizzled old chief, who nodded his head grimly and thanked them for the information.

"I'll send some men out right away," he told them. "If there's a criminal in those woods, they're sure to get him before dark. It's too bad you lads couldn't have got him yourselves. It would sure have been a feather in your caps!"

"Why doesn't he rub it in?" grumbled Joe, as they turned at last toward home and dinner. "He ought to know we feel mad enough about it."

"Well," said Bob, "if the police round him up, because of our information, it will be almost as good as though we'd caught him ourselves. I wouldn't," he added, with a glint in his eye, "exactly like to be in Cassey's shoes, now."

CHAPTER XIII

CUNNING SCOUNDRELS

BUT, contrary to the expectations of the radio boys, the police were not able to locate Cassey nor any of the rest of the gang. They searched the woods for miles around the old barn about which the boys had told them, even carrying their search into the neighboring townships, but without any result. It seemed as though the earth had opened and swallowed up Cassey together with his rascally companions. If such a thing had actually happened, their disappearance could not have been more complete.

"They must be experts in the art of hiding," grumbled Bob, upon returning from a visit to the chief of police. "I was certain they would be rounded up before this."

"Guess they must have made a break for the tall timber," said Joe.

"Decided, maybe, it isn't just healthy around here," added Herb, with a grin.

And then, just when they had decided that

Cassey and his gang had made a masterly getaway, the radio boys got on their trail once again.

That very evening, when tuning in for the concert, they caught another of those mysterious, stuttering messages in the unmistakable voice of Dan Cassey!

"Rice, rats, make hay," was the substance of this message, and the boys would have laughed if they had not been so dumbfounded.

"What do you know about that?" gasped Jimmy. "That old boy sure has his nerve with him."

"They're still hanging around here somewhere!" cried Bob excitedly. "They've probably got a hiding place that even the police can't find."

"Oh, if we could only make sense of this!" exclaimed Herb, staring at the apparently senseless message which he had written down. "If we only had their code the whole thing would be simple."

"Oh, yes, if we only had a million dollars, we'd be millionaires!" retorted Jimmy scornfully. "Where do you get that stuff, anyway?"

"Well," said Bob, temporarily giving up the problem, "as far as I can see, all there is for us to do is to keep our eyes and ears open and trust to luck. Now what do you say we listen in on the concert for a little while?"

In the days that followed Cassey's voice came

to them several times out of the ether, and always in that same cryptic form that, try as they would, they could not make out.

It was exasperating, that familiar voice coming to them out of the air day after day without giving them the slightest clue to the whereabouts of the speaker.

And then, while they were in town one day, they quite unexpectedly ran into their old friend, Frank Brandon, the wireless inspector, whose work for some time had taken him into another district.

However, he was to stay in Clintonia for a few days on business now, and since he had nothing particular to do that day, Bob enthusiastically invited him up to his home for a visit.

"Maybe you can give us some tips on our set," Bob added, as Mr. Brandon readily accepted the invitation. "We're not altogether satisfied with our batteries. For some reason or other they burn out too quickly."

"Yes, I'll take a look at it," agreed Mr. Brandon good-naturedly. "Although I imagine you boys are such experts by this time I can't tell you very much. What have you been doing with yourselves since we last met?"

The boys told him something of their experiences, in which he showed intense interest, and

in return he told them some interesting things that had happened to him.

And when he spoke of catching mysterious messages in the stuttering voice of Dan Cassey, Bob broke in upon him eagerly.

"We've caught a good many such messages too," he said. "Have you managed to make anything of them?"

"Not a thing," said Mr. Brandon, shaking his head. "If it is a criminal code, and I am about assured that it is, then it is a remarkably clever one and one that it is almost impossible to decipher without a key. I've just about given up trying."

Then the boys told of their encounter with Cassey in the woods and their adventure in the old barn, and Frank Brandon was immensely excited.

"By Jove," he said, "the man is up to his old tricks again! I'd like to get hold of him before he does any serious harm. That sort of criminal is a menace to the community.

"The funny part of it," he continued, as they turned the corner into Bob's block, "is that these messages are not all in Cassey's voice. Have you noticed that?"

It was the boys' turn to be surprised.

"That's a new one on us," Bob confessed.

"The only messages we have caught so far have been in Cassey's voice."

Frank Brandon slowly shook his head.

"No," he said, "I have caught a couple in a strange voice, a voice I never heard before."

"The same kind of message?" asked Herb eagerly.

"The same kind of message," Brandon affirmed. "I have taken it for granted that the owner of the strange voice is a confederate of Cassey's."

"Maybe one of the fellows who was with him in the woods," said Jimmy, and Mr. Brandon nodded gravely.

"It's possible," he said. "I don't know, of course, but I imagine that there are several in Cassey's gang."

By this time they had reached Bob's home, and as it was nearly lunch time, Mrs. Layton insisted that they all stay to lunch. The boys, not liking to make her trouble, said they would go home and come back later, but the lady of the house would have none of it.

"Sit down, all of you," she commanded, in her cheerful, hospitable way. "I know you're starved —all but Jimmy—" this last with a smile, "and there's plenty to eat."

Frank Brandon was very entertaining all during the meal and kept them in gales of laughter.

Mrs. Layton found him as amusing as did the boys.

At last the lunch came to an end and Mr. Brandon professed himself ready to talk shop.

He was enthusiastic over the radio set the boys showed him and declared that he could see very little improvement to suggest.

"You surely have kept up with the march," he said admiringly. "You have pretty nearly all the latest appliances, haven't you? Good work, boys. Keep it up and you'll be experts in earnest."

"If we could only find some way to lengthen the life of our storage batteries," said Bob, not without a pardonable touch of pride, "we wouldn't have much to complain about. But that battery does puzzle us."

"Keep your battery filled with water and see if it doesn't last you about twice as long," suggested the radio expert. "Don't add any acid to your battery, for it's only the water that evaporates."

"Will that really do the trick?" asked Joe, wondering. "I don't just see how——"

"It does just the same," Brandon interrupted confidently. "All you have to do is to try it to find out. Don't use ordinary water though. It needs to be distilled."

"That's a new one on me, all right," said Bob, adding gratefully: "But we're obliged for the

information. If distilled water will lengthen the life of our battery, then distilled water it shall have."

"It seems queer," said Mr. Brandon reflectively, "how apparently simple things will work immense improvement. Marconi, for instance, by merely shortening his wave length, is discovering wonderful things. We cannot even begin to calculate what marvelous things are in store for us when we begin to send out radio waves of a few centimeters, perhaps less. We have not yet explored the low wave lengths, and when we do I believe we are in for some great surprises."

"Go on," said Joe, as he paused. "Tell us more about these low wave lengths."

CHAPTER XIV

A DARING HOLDUP

FRANK BRANDON shook his head and smiled.

"I'm afraid I don't know much more to tell," he said. "As I have said, what will happen when we materially decrease the wave length, is still in the land of conjecture. But I tell you," he added, with sudden enthusiasm, "I'm mighty glad to be living in this good old age. What we have already seen accomplished is nothing to what we are going to see. Why," he added, "some scientists, Steinmetz, for instance, are even beginning to claim that ether isn't the real medium for the propagation of radio waves."

"What do you mean by that?" asked Bob, with interest. "Is it some sort of joke?"

"Joke, nothing!" replied Frank Brandon. "As a matter of fact, I fully believe that electro-magnetic waves can as easily be hurled through a void as through ether."

The boys were silent for a moment, thinking this over. It sounded revolutionary, but they

had great respect for Frank Brandon's judgment.

"There's the Rogers underground aerial," Bob suggested tentatively, and Brandon took him up quickly.

"Exactly!" he said. "That leans in the direction of what I say. Why, I believe the day is coming—and it isn't so very far in the future, either—when no aerial will be used.

"Why, I believe," he added, becoming more and more enthusiastic as he continued, "that ten years from now we shall simply attach our receiving outfits to the ground and shall be able to receive even more satisfactorily than we do to-day." He laughed and added lightly:

"But who am I to assume the rôle of prophet? Perhaps, like a good many prophets, I see too much in the future that never will come true."

"I don't believe it," said Bob. "I shouldn't wonder if all you prophesy will come true in a few years."

"Well," said Herb, with a grin, "it will be a relief not to get any more broken shins putting up aerials."

Mr. Brandon laughed.

"I'm with you," he said. "I've been there myself."

"Have you read about that radio-controlled tank?" Joe asked. "The one that was exhibited in Dayton, I mean?"

"I not only read about it, I saw it," Mr. Brandon answered, and the boys stared at him in surprise. "I happened to be there on business," he said; "and you can better believe I was on hand when they rolled that tank through the traffic."

"What did it look like?" asked Jimmy eagerly.

"The car was about eight feet long and three feet high," responded Brandon. "It was furnished with a motor and storage batteries, and I guess its speed was about five or six miles an hour."

"And was it really controlled by radio?" put in Herb, wishing that he had been on the spot.

"Absolutely," returned Brandon. "An automobile followed along behind it and controlled it entirely by wireless signals. The apparatus that does all the work is called the selector, and it's only about the size of a saucer. It decodes the dots and dashes and obeys the command in an inconceivably short time—about a quarter of a second."

"It can be controlled by an airplane, too, can't it?" asked Bob, and the radio inspector nodded.

"In case of war," he said slowly, "I imagine these airplane-controlled tanks could do considerable damage."

Their guest left soon after that, and, of course, the boys were sorry to have him go. His last words to them were about Cassey.

"Keep your eyes open for that scoundrel," he

said, "and we'll find out what he's up to yet."

But in the next few days so many alarming things happened that the boys had little time to think about Dan Cassey. The alarming happenings consisted of a series of automobile robberies in neighboring towns, robberies committed so skillfully that no hint nor clue was given of the identity of the robbers.

And then the robberies came nearer home, even into Clintonia itself. The president of one of the banks left his machine outside the bank for half an hour, and when he came out again it was gone. No one could remember seeing any suspicious characters around.

Then Raymond Johnston, a prominent business man of the town, had his car taken in the same mysterious manner from in front of his home. As before, no one could give the slightest clue as to the identity of the thieves.

The entire community was aroused and the police were active, and yet the mystery remained as dark as ever.

Then, one day, Herb came dashing over to Bob's home in a state of wild excitement. Joe and Jimmy were already there, and Herb stopped not even for a greeting before he sprang his news.

"Say, fellows!" he cried, sprawling in a chair and panting after his run, "it's time somebody

caught those auto thieves. They are getting a little too personal."

"What's up?" they demanded.

"One of dad's trucks has been held up!" gasped Herb. "In broad daylight, too!"

"Was anything taken?" asked Joe.

"Anything? Well, I should say! They looted the truck of everything. It's a wonder they didn't steal the machinery."

"That's a pretty big loss for your dad, isn't it?" said Bob gravely.

"It is!" replied Herb, running his fingers through his hair. "He's all cut up about it and vows he'll catch the ruffians. Though he'll have to be a pretty clever man if he does, I'll say."

"They do seem to be pretty slick," agreed Bob.

"I wonder if the same gang is responsible for all the robberies," put in Joe.

"It looks that way," said Jimmy. "It looks as if there were a crook at the head of the bunch who has pretty good brains."

"A regular master criminal, Doughnuts?" gibed Herb, then sobered again as he thought of his father's loss.

"It's bad enough," he said gloomily, "to hear of other people's property being stolen, but when it comes right down to your own family, it's getting a little too close for comfort."

"What is your dad going to do about it?" asked Bob.

Herb shrugged his shoulders in a helpless gesture.

"What can he do?" he asked. "Except what everybody else has done—inform the police and hope the rascals will be caught. And even if they are caught," he added, still more gloomily, "it won't do dad much good, except that he'll get revenge. The crooks will probably have disposed of all their stolen property before they're caught."

"Well, I don't know," said Bob hopefully. "Those fellows are getting a little bit too daring for their own good. Some day they'll go too far and get caught."

"I hope so. But crooks like that are pretty foxy," returned Herb, refusing to be cheered. "They're apt to get away with murder before they're caught."

The lads were silent for a moment, trying to think things out, and when Bob spoke he unconsciously put into words something of what his comrades were thinking.

"It seems as if radio ought to be able to help out in a case like this," he said, with a puzzled frown. "But I must say I don't see how it can."

"It can't," returned Herb. "If some one had been lucky enough to get a glimpse of one of the

thieves, then good old radio would have its chance. We could wireless the description all over the country and before long somebody would make a capture."

Bob nodded.

"That's where the cunning of these rascals comes in," he said. "Either nobody sees them at all, or when they do the thieves are so well disguised by masks that a useful description isn't possible."

"Were the fellows who held up your father's truck masked?" asked Jimmy with interest.

Herb nodded.

"From all I can hear," he said. "It was a regular highway robbery affair—masks, guns, and all complete. The driver of the truck said there were only two of them, but since they had guns and he was unarmed, there wasn't anything he could do.

"They made him get down off the truck, and then they bound his hands behind him and hid him behind some bushes that bordered the road. He would probably be there yet if he hadn't managed to get the gag out of his mouth and hail some people passing in an automobile. Poor fellow!" he added. "Any one might have thought he had robbed the truck from the way he looked. He was afraid to face dad."

"Well, it wasn't his fault," said Joe. "No man without a weapon is a match for two armed rascals."

"Didn't he say what the robbers looked like?" insisted Jimmy. "He must have known whether they were short or tall or fat or skinny."

"He said they were about medium height, both of them," returned Herb. "He said they were both about the same build—rather thin, if anything. But their faces were so well covered—the upper part by a mask and the lower by bandana handkerchiefs—that he couldn't give any description of them at all."

"I bet," Bob spoke up suddenly, "that whoever is at the head of that rascally gang knows the danger of radio to him and his plans. That's why his men are so careful to escape recognition."

The boys stared at him for a minute and then suddenly the full force of what he intimated struck them.

At the same instant the name of the same man came into their minds—the name of a man who used radio for the exchange of criminal codes, a man who stuttered painfully.

"Cassey!" they said together, and Herb added, thoughtfully:

"I wonder!"

CHAPTER XV

OFF TO THE WOODS

For days the town hummed with the excitement that followed the daring robbery of the truck belonging to Mr. Fennington, but as time passed and there seemed little prospect of bringing the robbers to justice, interest died down. But the radio boys never abated their resolve to do all in their power to recover the stolen merchandise, although at that time they were kept so busy in high school, preparing for a stiff examination, that they had little time for anything else.

"It's getting so bad lately that I don't even get time to enjoy my meals," grumbled Jimmy, one sunny spring afternoon. "Swinging an oar a la Ben Hur would be just a little restful exercise after the way we've been drilling the last week."

"Get out!" exclaimed Joe. "Why, you wouldn't last two hours in one of those galleys, Doughnuts. They'd heave you over the side as excess baggage once they got wise to you."

"After two hours of rowing in one of those old galleys, he'd be glad to get heaved overboard, I'll bet," put in Herb, grinning. "I think Jimmy would rather drown any day than work that hard."

"Huh! I don't see where you fellows get off to criticize," retorted the harassed youth. "I never saw any of you win gold medals for hard and earnest work."

"Lots of people deserve medals who never get them," Bob pointed out.

"Yes. But, likewise, lots of people don't deserve 'em who don't get 'em," retorted Jimmy, and for once appeared to have won an argument.

"I guess you're right at that," conceded Bob. "But, anyway, I'm going to pass those examinations no matter how hard I have to work. It will pretty near break my heart, but it can't be helped."

The others were equally determined, and they dug into the mysteries of Horace and Euclid to such good effect that they all passed the examinations with flying colors. After that came a breathing space, and just at that time a golden opportunity presented itself.

Mr. Fennington, Herbert's father, had become interested, together with several other business men of Clintonia, in a timber deal comprising

many acres of almost virgin forest in the northern part of the state. He was going to look over the ground personally, and when Herb learned of this, he urged his father to take him and the other radio boys along for a brief outing over the Easter holiday. When his father seemed extremely dubious over this plan, Herb reminded him that Mr. Layton had taken them all to Mountain Pass the previous autumn, and that it would be only fair to reciprocate.

"But the Lookers are up in that part of the country, too," said Mr. Fennington. "Aren't you fellows scared to go where Buck Looker is?" he added, with a smile lurking about his mouth.

"Oh, yes, we're terribly afraid of that!" answered Herb sarcastically. "We'll take our chances, though, if you'll only let us go with you."

"Well, well, I'll see," said his father, and Herb knew that this was practically equivalent to surrender. Accordingly he hunted up his chums and broached the project to them.

"Herb, your words are as welcome as the flowers in May," Bob told him, with a hearty slap on the back. "If this trip actually works out, we'll forgive you all last winter's jokes, won't we, fellows?"

"It's an awful lot to ask of a fellow, but I suppose we can manage it," said Joe, and Jimmy,

after pretending to think the matter over very seriously, finally said the same.

They were all overjoyed at the prospect of such a trip, and had little difficulty in getting the consent of their parents. Mr. Fennington eventually consented to take the radio boys with him, and there ensued several days of bustle and excited packing. At length all was ready, and they found themselves, one bright spring morning, installed in a big seven-passenger touring car *en route* for Braxton Woods, as the strip of timberland was called.

"This is the life!" chortled Jimmy, as the miles rolled away behind. "Fresh air, bright sun, the song of birds, and—doughnuts!" and he produced a bulging paper bag full of his favorite dainty.

"How do you get that way?" asked Joe severely, although he eyed the bag hungrily. "The 'song of doughnuts!' You're the only Doughnut that I ever heard of that could sing, and you're no great shakes at it."

"Oh, you know what I meant!" exclaimed Jimmy. "At least, you're thicker than usual if you don't."

"Do you hear that, Joe?" laughed Bob. "The boy's telling you that you're thick. Are you going to stand for that?"

"He knows it's true. And, anyway, he doesn't dare talk back for fear I won't give him one of

these delicious little morsels," said Jimmy placidly. "How about it, Joe?"

"That's taking mean advantage of a poor fellow who's practically dying of starvation," said Joe. "Give me a doughnut, and I won't talk back—until after I've eaten it, anyway."

"That's all right then," said his plump friend. "After you've eaten one, you'll feel so grateful to me that you'll regret all the low-down things you've ever said about me."

"Oh, you're the finest pal any fellow ever had," declared Joe. "How many doughnuts have you left, Jimmy?"

"Something tells me that you don't mean all you say," said Jimmy suspiciously. "Just the same, I'll take a chance and give you another one. They won't last long at the rate they're going; I can tell that without half trying."

"Well, a short life but a merry one," said Bob. "Come across with another, Jimmy, will you?"

"You know I love you too much to refuse you anything, Bob," said Jimmy. "Just the same, I'm going to hold out another for myself, and then you big panhandlers can finish them up. I've just had four, but I suppose those will have to last me for the present."

"Say, that's tough—only four!" exclaimed Herb, in mock sympathy. "What will you ever do until lunch time, I wonder?"

"I'm wondering the same thing myself; but I'm used to suffering whenever I'm with you fellows, so I suppose I'll have to grin and bear it somehow."

"I don't see why you didn't bring some more, while you were about it," complained Bob. "You might have known that wouldn't be half enough."

"It will be a long time before I buy any more for you Indians, you can bet your last dollar on that," said Jimmy, in an aggrieved voice. "You've been going to school a number of years, now, but you still don't know what 'gratitude' means."

"The only one that should be grateful is yourself, Doughnuts," Joe assured him. "You know if you had eaten that whole bag full of doughnuts that you'd have been heading a funeral to-morrow or next day. It's lucky you have us around to save you from yourself."

While Jimmy was still framing an indignant reply to this there was a loud report, and the driver quickly brought the big car to a halt.

"Blowout," he remarked laconically, walking around to view a shoe that was flat beyond the possibility of doubt. It was not an unmixed evil to the boys, however, for they welcomed the chance to get out and stretch their cramped muscles. They helped the driver jack up the wheel

and change shoes, and in a short time they were ready to proceed.

Back they climbed into their places, and with a rasp of changing gears they were on their way once more.

Braxton Woods lay something over a hundred miles from Clintonia, but the roads were good most of the way, and they had planned to reach their destination that evening. When they had covered sixty miles of the distance Mr. Fennington consented to stop for the lunch for which the boys had been clamoring for some time. They took their time over the meal, building a fire and cooking steak and frying potatoes.

"Gee, this was a feast fit for a king!" exclaimed Jimmy, when it was over.

The boys lay down on the newly sprouted grass, but had hardly got settled when the driver, who appeared restless, summoned them to proceed.

"We've got a long way to go yet," he said, "and the last fifteen miles are worse than all the rest of the trip put together. The road is mostly clay and rocks, and at this time of year it's apt to be pretty wet. I don't want to have to drive it after dark."

Mr. Fennington was also anxious to get on, so their rest was a brief one, and they were soon on their way again.

The radio boys laughed and sang, cracked jokes, and waved to passing cars, while the mileage record on the speedometer mounted steadily up. The sun was still quite a way above the western horizon when they reached the place where the forest road branched off from the main highway. The driver tackled this road cautiously, and they soon found that his description of it had not been overdrawn. It was a narrow trail, in most places not wide enough for two cars to pass, and they wondered what would happen should they meet another car going in the opposite direction. But in the whole fifteen miles they met only one other motor, and fortunately that was at a wide place in the road.

The scent of spring and growing things was strong in the air, and compensated somewhat for the atrocious road. The boys were often tossed high in the air as the car bumped over logs and stones, or came up with a lurch out of some deep hole. But they hung on to each other, or whatever else was most convenient, and little minded the rough going.

After one particularly vicious lunge, however, the heavy car came down with a slam, and there was a sharp noise of snapping steel. With a muttered exclamation the driver brought his car to a halt and climbed out.

"Just as I thought!" he exclaimed. "A spring

busted, and the nearest garage twenty miles away. Now we're up against it for fair!"

"Do you mean that we can't go on?" asked Mr. Fennington anxiously. "It will be dark in another hour."

"I know it will," replied the chauffeur. "But what can we do about it?"

"Can't we make a temporary repair?" suggested Bob. "We can't have much further to go now."

"Well, I'm open to suggestions, young fellow," growled the driver. "If you can tell me how to fix this boiler up, go to it. It's more than I can do."

Bob and the others made a thorough examination of the damage, and they were not long in concocting a plan. Bob had brought with him a small but very keen-edged ax, and it was the work of only a few minutes to cut a stout limb about six inches in diameter from a tree.

With this, and a coil of heavy rope that was carried in the car for emergencies, they proceeded to make the temporary repair.

CHAPTER XVI

PUT TO THE TEST

FIRST of all the boys trimmed the branch to a length slightly greater than the distance between axle and axle of the car. Then, near each end, they cut a notch about two inches deep, one to fit over the front and one over the rear axle. Next they placed the branch in position, and with the heavy rope lashed it securely into position. Thus the front and rear axles were kept at the proper distance from each other, and, moreover, the side of the car that was over the broken spring could rest on the stout pole.

The driver, who at first had watched their efforts with a derisive grin, took their plan more seriously as he realized the scheme, and now he examined the completed job with an air of surprised respect.

"I've got to admit that that looks as though it might do the trick," he admitted, at length. "I've seen a lot of roadside repairs in my time, but blest if that hasn't got 'em all beat. I'll take

it at slow speed the rest of the way, and we'll see if it will stand up long enough to get us in."

And get them in it did, in spite of much creaking and groaning and bumping.

The automobile drew up before a long one-story building, constructed roughly but substantially of unpainted boards. Supper was being served, and they were just in time to partake of a typical lumber camp meal. The big table was laden with huge joints of meat, platters of biscuits and vegetables, while strong, black coffee was served in abundance. After this plates of doughnuts were passed around, greatly to Jimmy's delight, and for once he could eat all he wanted with nobody to criticize, for the lumbermen were no tyros at this sort of thing, and packed away food in quantities and at a speed that made the boys gape.

"Gee!" exclaimed Bob, after they had emerged into the balmy spring air outside, "I used to think that Jimmy could eat; but he can't even make the qualifying heats with this crowd. You're outclassed, Doughnuts, beyond the chance of argument."

"I don't see but what I'll have to admit it," sighed his rotund friend. "But I don't care. It seems like Heaven to be in a place where they serve doughnuts like that. There's none of this 'do-have-a-doughnut' business. Some big husky

passes you a platter with about a hundred on it and says, 'dig in, young feller.' Those are what I call sweet sounding words."

"And you dug, all right," remarked Joe, grinning. "I saw you clean one platter off all by your lonesome—at least, you came pretty near it," he qualified, with some last lingering regard for the truth.

"I didn't anything of the kind! But I only wish I could," lamented Jimmy.

"Never mind, Doughnuts, nobody can deny that you did your best," laughed Herb. "After you've had a little practice with this crowd, I'll back you against their champion eater any day."

"So would I," said Bob. "We've often talked about entering Jimmy in a pie-eating contest, but I never before thought we could find anybody who would even stand a chance with him. Up here, though, there's some likely-looking material. Judging from some of those huskies we saw tonight, they might crowd our champion pretty hard."

"You can enter me any time you want to," said Jimmy. "Even if I didn't win, I'd have a lot of fun trying. I never really got enough pie at one time yet, and that would be the chance of a lifetime."

At first the boys were more than half joking, but after they had been at the camp a few days

and had begun to get acquainted, they let drop hints regarding Jimmy's prowess that aroused the interest of the lumbermen. He was covertly watched at meal times, and as the bracing woodland air and long hikes combined to give an added edge to his appetite, his ability began to command attention. There were several among the woodsmen who had a reputation for large capacity, but it was soon evident that Jimmy was not to be easily outdistanced in his own particular department.

At length interest became so keen that it was decided to stage a real old-fashioned pie-eating contest, to determine whether the champions of the camp were to be outdistanced by a visitor from the city. The cook was approached, and agreed to make all the pies that, in all human probability, would be needed.

"Jimmy, you're in for it now!" exclaimed Herb, dancing ecstatically about his plump friend. "Here's your chance to make good on all the claims we've ever advanced for you. You're up against a strong field, but my confidence in you is unshaken."

"It simply isn't possible that our own Jimmy could lose," grinned Bob. "I've seen him wade into pies before this, and I know what he can do."

"I appreciate your confidence, believe me," said Jimmy. "But I don't care much whether I win

or not. I know I'll get enough pie for once in my life, and that's the main thing."

The time for the contest was set for the following evening, the third of their stay. Five lumbermen had been put forward to uphold the reputation of the camp, and they and Jimmy ate no supper that night, waiting until the others had finished. Then the board was cleared, and the cook and his helper entered, bringing in several dozen big pies of all varieties. One of these was placed before each of the contestants, and they could help themselves to as many more as their capacity would admit.

The cook, as having the best knowledge of matters culinary, was appointed judge, and was provided with a pad and pencil to check up each contestant. A time limit of two hours was set, the one having consumed the greatest amount of pie in that time to be declared the winner.

The cook gave the signal to start, and the contest was on.

The lumbermen started off at high speed, and at first wrought tremendous havoc among the pies, while Jimmy ate in his usual calm and placid manner, evidently enjoying himself immensely. Each of the lumbermen had his following, who cheered him on and urged him to fresh endeavors. Bob and Joe and Herb said little, for they had ob-

served Jimmy's prowess over a period of several years, and knew his staying qualities.

At the end of the first half hour their friend was badly outdistanced, but the other contestants had slowed up noticeably, while Jimmy still ate calmly on, no faster and no slower than when he had started. He was only starting on his second pie when all the others were finishing theirs, but the confidence of his three comrades remained unshaken. They observed that the lumbermen chose their third pies very carefully, and started to eat them in a languid way. They were only about half through when Jimmy disposed of his second one, and started on a third.

"How do you feel, Jimmy?" asked Herb, with a grin. "Are you still hungry?"

"No, not exactly hungry, but it still tastes good," replied Jimmy calmly. "You sure can make good pies, Cook."

The other contestants essayed feeble grins, but it was easy to see that their pies no longer tasted good to them. More and more slowly they ate, while Jimmy kept placidly on, his original gait hardly slackened. He finished the third pie and started nonchalantly on a fourth. At sight of this, and his confident bearing, two of the other contestants threw up their hands and admitted themselves beaten.

"I used to like pie," groaned one, "but now I hope never to see one again. That youngster must be made of rubber."

"I've often said the same thing myself," chortled Bob. "Just look at him! I believe he's good for a couple more yet."

Excitement ran high when two of the remaining lumbermen were forced out toward the middle of their fourth pie, leaving only Jimmy and a jolly man of large girth, who before the start had been picked by his companions as the undoubted winner.

"Go to it, Jack!" the lumbermen shouted now. "Don't let the youngster beat you out. He's pretty near his limit now."

It was true that flaky pie crust and luscious filling had lost their charm for Jimmy, but his opponent was in even worse plight. He managed to finish his fourth pie, but when the cook handed him a fifth, the task proved to be beyond him.

"I've reached my limit, fellers," he declared. "If the youngster can go pie number five, he'll be champion of the camp."

Excitement ran high as Jimmy slowly finished the last crumbs of his fourth pie, and the cook handed him a fifth. Would he take it, or would the contest prove to be a draw?

CHAPTER XVII

THE BULLY GETS A DUCKING

"Our man doesn't have to eat another whole pie," protested Bob. "If he just eats some of it he'll win, Mr. Judge."

"That's right," nodded the cook. "How about you, young feller? Are you able to tackle it?"

"Sure thing," responded Jimmy. "Hand it over."

He forced himself to cut and eat a small piece, and when he had finished, pandemonium broke loose. The judge declared him undisputed champion of the camp, and he was caught up and elevated to broad shoulders while an impromptu triumphal procession was organized that circled the camp with much laughter and many jokes at the expense of the defeated aspirants for the title.

After this was over, the boys held a little private jubilation of their own in the little cabin where they were quartered with Mr. Fennington.

He had been away during the contest, but he returned shortly afterward, and laughingly congratulated Jimmy on his newly won honors.

"How do you feel?" he inquired. "Do you think you could manage another piece of pie? I'll see that you have a large piece if you think you can."

"No, sir! I've had enough pie to last me for a good while to come," declared Jimmy positively. "I'll be ashamed to look a pie in the face. For the next week or so I'll have to stick to my favorite doughnuts for dessert."

"Well, you did nobly, Doughnuts, and I love you more than ever," declared Bob. "You were up against a field that anybody might be proud to beat."

"And the best part of it, to me, is the feeling that our confidence in Jimmy's eating powers was justified," declared Joe. "After all the wonderful exhibitions he's given in the past, it would have been terrible if he hadn't come up to scratch tonight."

"The way that fellow they call Jack started off, I never thought you had a chance, Jimmy," confessed Herb.

"If he could have held that pace, I wouldn't have had a look-in," admitted Jimmy. "I figured he'd have to slow down pretty soon, though. 'Slow but sure' is my motto."

"How would you like to take a nice three-mile sprint now?" asked Herb mischievously.

"Three mile nothing!" exclaimed Jimmy scornfully. "I couldn't run three yards right now. I think I'll lie down and give my digestion a chance," and in a few minutes he was peacefully snoring.

The next morning he showed no ill effects from the prodigious feast, but ate his usual hearty breakfast. The others were forced to the conclusion that his table ability was even greater than they had suspected, and from that time on they firmly believed him to be invincible in his particular department.

By this time they were thoroughly familiar with the camp, and decided to make an excursion into the woods the following day, taking lunch with them and making it a day's outing. The cook so far departed from his usual iron-clad rules as to make them up a fine lunch, making due allowance for Jimmy's proven capacity.

They started out immediately after breakfast. Not being particular as to direction, they followed the first old logging road that they came to. It led them deeper and deeper into the forest that was alive with the sounds and scents of spring. Last year's fallen leaves made a springy carpet underfoot, while robins sang their spring song in the budding branches overhead.

For some time the boys tramped in silence, breathing deeply of the exhilarating pine and balsam atmosphere and at peace with all the world. Soon there was a glint of water through the trees, and the boys, with one accord, diverged from the faint trail that they had been following and were a few minutes later standing at the water's edge.

They found themselves on the shore of a large lake. It was ringed about with big trees, many of which leaned far out over it as though to gaze at their reflections in the water. The ripples lapped gently on a sloping sandy beach, and the invitation to swim proved irresistible to all but Jimmy.

"I know what lake water is like at this time of year," he said. "You fellows can go in and freeze yourselves all you like, but I'll stay right here and look after the things. Just dive right in and enjoy yourselves."

"Well, we won't coax you," said Bob. "But that water looks too good to miss. It is pretty cold, but I guess that won't kill us."

Off came their clothes, and with shouts and laughter they splashed through the shallow water and struck out manfully. The icy water made them gasp at first, but soon the reaction came, and they thoroughly enjoyed their swim. They tried to coax Jimmy in, but he lay flat on his back

under a tree and was adamant to all their pleadings.

The others did not stay in very long, but emerged glowing from the effects of exercise and the cold water. As they were getting into their clothes they heard voices coming toward them, and they had hardly finished dressing when the voices' owners came crashing through the underbrush close to where the boys were standing.

The two groups stared in astonishment for a few moments, for the newcomers were none other than Carl Lutz, Buck Looker, Terry Mooney, and another older fellow, who was a stranger to the radio boys.

Buck's expression of surprise quickly gave place to an ugly sneer, and he turned to his friends.

"Look who's here!" he cried, in a nasty tone. "I wonder what they're up to now, Carl?"

"We're not hiding from the cops because we broke a plate glass window and were afraid to own up to it," Bob told him.

"Who broke a window?" demanded Buck. "You can't prove that it wasn't a snowball that one of your own bunch threw that broke that window."

"We don't throw that kind of snowballs," said Joe.

"What do you mean by that?" asked Buck.

"Are you trying to say that we put stones in our snowballs?"

"I don't have to say it," retorted Joe. "You just said it yourself."

Too late Buck realized his mistake, and his coarse red face grew purple as Herb and Jimmy grinned at him in maddening fashion.

"Don't you laugh at me, Jimmy Plummer!" he exclaimed, picking on Jimmy as being the least warlike of the radio boys. "I'll make you laugh out of the other side of your mouth in a minute," and he started to dash past Bob to reach his victim.

But to do so he had to pass between Bob and the bank of the lake, which just at this point was a foot or so above the water.

As he rushed past, Bob adroitly shot out a muscular arm and his elbow caught the bully fair in the side. Buck staggered, made a wild effort to regain his balance, and with a prodigious splash disappeared in the icy waters of the lake.

For a few seconds friend and enemy gazed anxiously at the spot where he had gone under, but he soon came to the surface, and, sputtering and fuming, struck out for the shore and dragged himself out on to dry land.

He made such a ludicrous figure that even his cronies could not forbear laughing, but he turned

on them furiously and their laughter suddenly ceased. Then he turned to Bob.

"If I didn't have these wet clothes on, I'd make you pay for that right now, Bob Layton," he sputtered. "I'll make you sorry for that before you're much older."

"Why not settle it right now?" offered Bob. "You're clothes will dry soon enough, don't worry about that."

"Yes, I know you'd like nothing better than to see me get pneumonia," said Buck. "You wait here till I go home and get dry clothes on, and I'll come and give you the licking that you deserve."

"That's only a bluff, and you know it," said Bob contemptuously. "But if any of your friends would like to take your place, why, here I am. How about you, Lutz?"

But Carl muttered something unintelligible, and backed away. The others likewise seemed discouraged by the mischance to their leader, for they turned and followed his retreating form without another word.

"Some sports!" commented Joe.

"Game as a mouse," supplemented Herb.

"That was a swell ducking you gave Buck," chuckled Jimmy. "Just when he was going to pick on me, too. I owe you something for that, Bob."

"Pay me when you get rich and famous," laughed his friend. "You don't owe me anything, anyway. It was a pleasure to shove Buck into the lake. I'm perfectly willing to do it again any time I get the chance."

"Oh, it's my turn next time," said Joe. "I can't let you hog all the fun, Bob."

"All right," replied his friend. "If we run into him again, I'll leave him to your tender mercies. But I don't imagine he or his friends will bother us any more to-day, so why not have lunch?"

"I was thinking the same thing," remarked Jimmy, and they forthwith set to work to prepare what Jimmy termed a "bang-up lunch."

CHAPTER XVIII

A STARTLING DISCOVERY

THE cook had supplied the radio boys with a lavish hand, but their long walk and the swim had given them ravenous appetites, and by the time they finished there was little left of the lunch. Even this little was soon disposed of by the bright-eyed birds that ventured close in pursuit of the tempting bits. By sitting as still as statues the boys succeeded in enticing the little fellows almost within arm's length, and derived no little amusement at the evident struggle between greed and caution.

But soon the last crumb was gone, and after a short rest the lads began to think of returning to camp. They did not want to go back by the same road over which they had come, however, so decided to follow the shores of the lake until they should find some other path. This was, of course, a roundabout way of getting home, but they had the better part of the afternoon before them, and were in no particular hurry.

"Come on over to the north," suggested Joe. "I think there is another trail in that direction."

"Yes, and I imagine the walking is better," put in Herb.

"Say, you don't want to go too far out of the way," came hastily from Jimmy. "We've got to walk back remember."

"Forward it is!" cried Bob. "Come on, Jimmy, you've got to walk off that big lunch you stowed away."

"Gee, if I walk too far I'll be hungry again before I get home," sighed the stout youth.

"Wow! hear Jimmy complain," burst out Joe. "He hardly has one meal down than he's thinking of another."

To find another trail was not as simple a matter as it had seemed, and they must have traveled over two miles before Bob's keen eyes detected a slight break in the dry underbrush that might denote a path such as they sought. They found a dim trail leading in the general direction in which they wished to go, and set out at a brisk pace, even Jimmy being willing to hurry as visions of the loaded supper table floated before him.

Gradually the path widened out, as others ran into it, until it became a fairly well defined woods road. It was thickly strewn with last year's soft and rotting leaves, and the boys made little sound in spite of the rapidity of their pace. Bob and

Joe and Herb were striding along in a group, Jimmy having dropped behind while he fixed a refractory shoe lace, when suddenly Bob halted abruptly and held up a warning hand. The others, scenting something amiss, stopped likewise, looking inquiringly at Bob.

Silently he pointed to a spot slightly ahead of them and several paces off the road. Even as the others gazed wonderingly, Bob beckoned them to follow and slipped silently into the brush that lined the road.

On the other side stood a big tree, its trunk and branches sharply outlined against the clear sky. At the base of this tree, with his back toward them, stood a man. Now, the surprising part of it all, and that which had caused the boys to proceed so cautiously, was the fact that the man wore headphones and was evidently receiving a message of some kind. Fastened to the tree was a box, which evidently contained telephonic apparatus. At first the boys thought he must be listening at an ordinary telephone, but the fact that he had no transmitter indicated that he was listening in on a radio receiving set.

The boys had hardly reached their place of concealment when the man turned sharply about, darting furtive glances here and there, evidently in search of possible intruders. The boys crouched lower behind the bushes and prayed

fervently that Jimmy would not arrive before the man had gone. The fellow was of fair size, with a deeply tanned face, and wore a moustache. Fortunately, after they had been watching him a few minutes, he removed the earphones, placed them in the box, and, after locking it, started into the woods, following a dimly marked footpath.

It was well that he left when he did, for not two minutes later Jimmy came puffing along, looking anxiously for the others. He stopped in amazement when he saw his friends emerge from the bushes, and was about to raise his voice in vehement questionings when Bob leaped at him and clapped a hand over his mouth.

"Be quiet!" he hissed into his ear. "There's some funny work going on here, and we want to find out what it is."

Thus admonished, Jimmy was released, and in low tones the others told him of what they had seen and showed him the box fastened to the tree. While they were about it, they made a hasty search for the antenna, and found it strung close to the trunk of the tree, extending from the top almost to the roots. After this discovery they hurried after the man with the moustache, fearful lest they should lose his trail.

It was no easy matter to follow the dimly marked path, for it passed at times over stony

ground and big boulders, where often it took much searching here and there before they picked up its continuation.

"We may be taking all this trouble for nothing," said Bob, after one of these searches. "Maybe he's just a lumberman receiving instruction by wireless from his employers. Big business firms are using radio more and more for such purposes."

"I didn't like the way he kept looking about him, as though he had something to conceal," objected Joe. "It can't do any harm to see where he goes, anyway. We may find out something important."

"His hands weren't those of a lumberman," observed Herb. "Those hands never saw rough work nor, judging from the man's face and manner, honest work. Come on, fellows."

Accordingly the boys followed the difficult trail with untiring patience, and at last their perseverance was rewarded. The path widened out into a little clearing, and at the further side of this was a rough log cabin. The little shack had two small windows, and with infinite caution the boys approached until they could see into the nearest one.

The interior was rudely furnished with a heavy table and two crudely fashioned chairs, while in

the corner furthest from them two bunks had been built, one above the other. In another corner was a compact radio transmitting set.

At the table was seated the man with the moustache, intently studying a notebook propped up before him. From this he made notes on a sheet of paper, scowling at times like one engaged in a difficult task. At length he shoved back his chair, rose to his feet, and, striding across the little shack, carefully placed the notebook under a board on a shelf. Luckily he was so absorbed in what he was doing that he did not even glance toward the window where the radio boys were observing his every motion.

But Bob now judged that they had seen enough, and he wished to run no unnecessary risk of detection. At a signal from him they made for the underbrush at the edge of the clearing, where they could command a view of the door, and waited to see if the mysterious stranger would emerge.

In a few minutes the door opened and the man stepped out, stopping to fasten it securely behind him. Then, with a quick glance about the little clearing, he made for the path leading to the main road and in a short time the sound of his going died away.

The boys waited a few minutes, thinking that possibly he might return for something forgotten, but no further sound came from the path. At

length they ventured to approach the deserted cabin.

The door had been fastened with a heavy padlock, but this was not sufficient to deter the radio boys. Searching through their pockets for some implement with which they could undo the lock, Jimmy discovered a stout fish-hook, and after they had ground off the barbs against a flat stone this made an ideal tool. With it Bob probed about in the interior of the padlock, and at length, with a sharp click, it sprung open. Ordinarily he would not have done this, but he had every reason to believe that he was dealing with a criminal and that he was justified in the interest of law and order in taking steps that would prevent any further depredations against society.

"More ways than one of killing a cat," remarked Bob, as he pushed open the heavy door and entered the cabin. "We've got to know what's in that notebook before we leave this place. Let's have a look."

The boys quickly brought the book from its place of concealment and carried it to the table, where they bent eagerly over it as Bob turned the pages.

"It doesn't look like sense to me," complained Jimmy. "I never saw such a lot of fool words jumbled together."

"Yes, but something tells me there's method in this madness," said Bob, his brows knit as he

concentrated on the problem before him. "Say, fellows!" he exclaimed, as sudden excitement gripped him, "do you remember those nights we were listening to our big set and we heard the mysterious messages? They were just a lot of words, and we couldn't make anything out of them at the time."

"You bet I remember!" exclaimed Joe. "I think I could even tell you most of the words. Why, there's some of them in that book, right now!"

"Exactly," replied Bob, nodding. "I remember them, too, and this must be the key to the code. My stars, what luck! Let's see how close we can recall the words we caught, and then we'll see if we can make sense of them with the help of this key."

"I'll tell you the words as I remember them, and you check me up," suggested Joe, and this they accordingly did.

Between them they managed to get it straight, just as they had heard it, "Corn-hay-six-paint-water-slow-sick-jelly."

"I think that's right," said Bob. "Anyway, we'll see if it comes right with the key. You read the words, Joe, and I'll find them in this notebook and you can write them down. Shoot the first one."

"Corn," said Joe.

Bob hunted rapidly down the columns of code words and their equivalents, and soon found the one he was after.

"Motor truck," he read out.

"That sounds promising!" exclaimed Joe. "The next word I've got is 'hay.' What's the answer to that?"

"Silk," said Bob, after a shorter search this time.

"Six," read Joe.

"Castleton Road!" exclaimed Bob, his voice shaking with excitement as he traced down the columns of words. Herb and Jimmy were also excited; especially the former, as he realized better than the others how serious a loss the theft of his father's truckload of silk had been and now thought he saw some clue in this message that might throw light on the whereabouts of the stolen goods.

CHAPTER XIX

THE ROBBERS' CODE

"THE next word is 'paint,' " said Joe. "What does that stand for, Bob?"

"Just a minute, till I find it," replied his friend, and after turning over several pages found the word he sought.

"It means 'to-night,' he said. Read what we've got so far."

"Motor truck—silk—Castleton Road—to-night," read Joe. "That's clear enough so far. The next code word is water."

" 'No guards,' " said Bob. And so they went, until the completed message read as follows:

"Motor truck—silk—Castleton Road—to-night—no guards—hold up—take everything to usual place—notify when job is done."

"That's the message that caused the theft of my father's merchandise!" exclaimed Herb, jumping to his feet. "If we had only had the key then, when there was still time, we could have prevented the hold-up."

"Very likely we could," agreed Bob soberly. "But we may be able to do the next best thing, Herb—get the stuff back again. If we make a copy of this key and then leave the book just where we found it, the thieves will never dream that anybody knows their secret, and they'll keep right on using the same code."

"I see," said Herb slowly. "And then if we hear any more code messages we can translate them with this key, and likely get on the trail of the crooks."

"Exactly!" replied Bob. "Now, I have a notebook here, and if one of you fellows will dictate that code, I'll copy it down and we'll get out of here while the getting's good. There's no telling what minute some of the gang will show up."

"I'll dictate," volunteered Joe. "But while you and I are doing that, Bob, why can't Jimmy and Herb act as lookouts? Then if any of the gang comes along they can give us warning and we'll clear out."

"That's good advice," agreed Bob, and Herb and Jimmy went outside and up the path a short distance, where they crouched, listening, with every muscle tense to warn their comrades if danger threatened.

Meanwhile, in the cabin, Bob's pencil flew at furious speed as Joe dictated. The code was very complete, and consisted of over two hundred

words, each word, in some cases, standing for a whole phrase. Bob wrote as he had never written before, but in spite of his utmost efforts it took over an hour to copy the entire list. He and Joe expected every minute to hear Herb or Jimmy give the alarm, but the woods remained calm and peaceful, and they finished their task without interruption.

"There's the last word, Bob!" exclaimed Joe, with a sigh of relief. "Let's put that little book back on the shelf where we found it, and make a quick get-away."

"Yes, we've got to make tracks," agreed Bob. "It will be away after dark now when we get back to the camp. If we don't hurry they will be organizing searching parties for us."

With great care he placed the notebook back on the shelf, under the board, and then gazed searchingly around the cabin to make sure that no signs of their visit were left behind to warn the thieves. After assuring himself that everything was exactly as they had found it, he and Joe left the rude habitation, snapping the big padlock through the hasp.

"That's a swell lock," observed Joe, grinning. "It looks strong enough to discourage anybody, but Jimmy's fish-hook licked it to a frazzle in no time."

"That's the way with a lot of padlocks," said

Bob, as the two started off in search of the others. "It would take dynamite to break them open, but they're easy enough to pick."

"If you know how, that is," supplemented Joe, with a grin.

"Oh, that's understood," replied Bob. "It's hard to do anything without the know-how."

They soon picked up the two sentinels, who were greatly relieved to see them.

"I thought you were going to spend the night there," grumbled Jimmy. "What happened? Did you both fall asleep in the middle of it?"

"You're an ungrateful rascal, Doughnuts," answered Joe. "Here Bob and I have worked like slaves for the last hour, while all you had to do was loaf around in the nice fresh air. Then instead of thanking us, you growl because we took so long."

"Well, don't get sore," protested Jimmy. "I suppose we should all be so happy over this discovery that we shouldn't mind anything. I'll bet your father will be tickled to death, Herb."

"I guess he will," agreed Herb. "Although we're still a long way from getting back the stolen silk. There's no doubt that we've struck a mighty promising clue, that much is sure."

Bob was about to make some remark when he checked himself and halted in a listening attitude.

"I think some one is coming!" he exclaimed,

in a low tone. "I'm sure I heard voices. Let's duck into the underbrush, quick!"

They were not a moment too soon, for they had hardly reached a place of concealment behind a great fallen tree when two men appeared around a bend in the path. One was the same whom they had followed a few hours before, while the other was a stranger to them. This man was of a desperate and unprepossessing appearance, and a bulge under his coat suggested the possible presence of a weapon.

The boys congratulated themselves that this formidable looking personage had not arrived half an hour sooner, for they were of course unarmed and would have been hard put to it had they been caught in the cabin.

They lay snugly hidden in their retreat behind the fallen tree until the voices of the two men had died away in the direction of the lonely cabin. Then they returned cautiously to the path and hastened toward the main road. This they reached without meeting any one else, and set out for camp at a pace that caused Jimmy to cry for mercy. But the shadows lay long athwart the path, camp was still an indefinite distance away, and they hurried the unfortunate youth along at a great rate in spite of his piteous protests.

"It will be the best thing in the world for you,

Doughnuts," said Joe unfeelingly. "What you need is plenty of exercise to take that fat off you."

"Besides, think of what a fine appetite you'll have when we reach camp," laughed Bob.

"I've got all the appetite now that I know how to have," groaned Jimmy. "You fellows haven't a heart between you. Where other people keep their hearts, you've all got chunks of Vermont granite."

"Flash a little speed, and don't talk so much," advised Herb. "Be like the tramp that the fellow met going down the street one day with an expensive rug."

"Who wants to be like a tramp?" objected Jimmy.

"You do, when you want to loaf all the time," retorted Herb. "But now I'll tell you a good joke to make the way seem shorter. Jimmy got me started, and now I'll have to get it out of my system."

"Is it about a tramp?" asked Jimmy suspiciously.

"Yes. And it's a pippin," Herb assured him. "It seems this tramp was running down the street with an expensive rug over his shoulder, and somebody stopped him and began to ask questions.

" 'Where did you steal that rug from?' asked the suspicious citizen.

" 'I didn't steal it,' answered the tramp, trying to look insulted. 'A lady in that big house down the street handed it to me and told me to beat it, and I am.' "

"Say, that's a pretty good joke, for you, Herb," said Bob, laughing with the others.

"Oh, that's nothing. I've got others just as good," said Herb eagerly. "Now, here's one that I made up myself the other day, but I forgot to tell it to you. Why——"

"Suffering tomcats!" exclaimed Joe. "Don't tell us anything that you made up yourself, Herb! Or, at least, wait until we get back and have supper, so that we'll be strong enough to stand it."

"That's what I say," agreed Jimmy. "I'm so hungry that I can't think of anything but supper, anyway. I know your joke is as good as usual, Herb, but I wouldn't be able to appreciate it just now."

"It's discouraging to a high-class humorist to have to throw away his choice offerings on a bunch like this," said Herb, in an injured voice. "Some day, when I am far away, you'll wish you had listened to those gems of humor."

"I'd like to believe you, but that hardly seems possible," said Bob. "Can you imagine the day ever coming when we'd actually want to sit down and listen to Herb's line of humor?"

"My imagination isn't up to anything like that,"

replied Joe. "But, of course, you don't really ever have to ask Herb to spill some of those jokes. The hard thing is to keep him from doing it."

"Oh, all right," retorted Herb. "Only, remember that it is 'easier to criticize than to create.' "

For some time after this they plodded along hoping to reach camp before it got entirely dark. Bob was the first to see a distant point of light through the trees, and he emitted a whoop that startled the others.

CHAPTER XX

ON THE TRAIL

"I CAN see the lights from the camp!" Bob exclaimed. "Use your eyes, fellows. A little to the left of us, through the trees."

"Well, it's about time," groaned Jimmy, as they all looked in the direction indicated. "I was just getting ready to lie down and die peacefully. I couldn't travel another mile if you paid me for it."

"Oh, buck up, Doughnuts, and get a move on!" exclaimed Bob. "You never know what you can do until you try. Come on, let's take it on the double."

He and Joe and Herbert broke into a lively trot, and rather than be left behind Jimmy overcame his reluctance for further effort, and with much puffing and blowing and fragmentary complaint managed to hold the pace until they arrived at the mess house.

Luckily for them, supper had been delayed owing to the failure of some supplies to arrive

on time, and the lumbermen had just started eating when the radio boys burst in through the door.

The lumbermen stopped eating long enough to welcome their arrival, and they found their places set as usual.

"Glory be!" exclaimed Jimmy, as he slid into his chair. "If there were a pie-eating contest on to-night, I could show you fellows some real class. I feel empty right down to my toes."

"It's lucky we got a head start, Champ," remarked one of the men, with a grin. "Pass everything down this way, you amateurs. There's a professional here wants to show us some fancy eating."

By this time Jimmy was too busily occupied to make any answer, and the other radio boys were also showing good appetites. The long trip and the excitement of their discovery of the secret code had sharpened their naturally keen appetites until for once they all felt on equal terms with the lumbermen. Jimmy surpassed himself, and great was the admiration expressed for his ability as a trencherman.

After supper the boys sought out Mr. Fennington and told him of their discovery in the lonely cabin. Then Bob showed him the copy he had made of the code, and Mr. Fennington studied this a long time with knit brows.

"There seems little doubt that you boys have unearthed an important clue, and one that may easily lead to the discovery of the crooks who stole my merchandise," he said, at length. "I suppose I should put this information in the hands of the police. And yet perhaps we had better say nothing until we learn something further. With your radio outfit you may be able to catch another code message that would give us more definite information, and then it would be time enough to call in the police."

"I think that would be the best thing to do, Dad," agreed Herb. "As soon as we get back home we'll fix it so one of us will be at the set a good part of every afternoon and evening, and we'll be almost certain to catch some more messages like the last one."

His father nodded, and was still considering the matter when there came a knock at the door. Herb crossed over and opened it, and he and his friends uttered exclamations of astonishment and delight as they recognized the visitor. He was none other than Frank Brandon, the government radio inspector.

On his part, he was no less pleased to see them, and they all shook hands heartily, with many questions and explanations, after which the radio inspector was introduced to Mr. Fennington.

"I suppose you're all wondering what I'm

doing up here," he said, after the greetings were over.

"Yes, in a way," admitted Bob. "Although we know that your position calls you all over, and we may expect to meet you almost any old place."

"Yes, that's a fact," replied Brandon. "I'm up here on the same old business, too. Somewhere in this neighborhood there's an unauthorized sending station, but in these thick woods it may prove a rather difficult place to locate exactly. However, it will only be a matter of time when we nail it."

The boys glanced at one another, and the same thought was in all their minds. They remembered the radio apparatus they had seen in the lonely cabin, and had little doubt that this would prove to be the unauthorized station of which the radio man was in search.

He must have read something of this in their expression, for he looked searchingly from one to another.

"Looks to me as though you fellows knew something," he remarked. "I might have known if there was anything going on in the radio line within fifty miles of where you are that you'd know something about it."

"Well, I've got a hunch that we could lead you right to the place you're looking for," said Bob quietly.

"What?" shouted Brandon, leaping excitedly to his feet. "Do you really mean that? Tell me all about it."

For the second time that evening Bob recounted the happenings of their eventful excursion, while the radio inspector listened intently, throwing in a question here and there. When Bob had finished he made no comment for a few minutes.

Then he took the copy of the code and examined it intently, jotting down phrases here and there in his own notebook.

"Well," he said at length, "this looks to be a much bigger thing than I had supposed. Of course I heard of the robbery of the motor-truck, but I never for a moment connected that with this sending station we've been looking for. It seems fairly evident, though, that if we can lay our hands on the operators of the unauthorized sending outfit, we'll also have the perpetrators of that hold-up. This is a case where we'll have to think out every move before we act."

"Just before you arrived I was considering the advisability of putting the matter into the hands of the police," said Mr. Fennington. "What would you do?"

"Keep the whole thing to ourselves for the present," said Mr. Brandon decisively. "I'll send for a couple of good men to come up here and help me, and we'll keep a watch on that cabin

for a few days. If this thing got into the papers, it would put the crooks on their guard, and probably spoil our chances of catching them and getting back the loot. I've got a small but extremely efficient receiving and sending set in my car, and if any more code messages are sent out we'll catch them."

His confidence was contagious, and the boys felt almost as though the capture of the criminals had already been accomplished.

"What puzzles me, though," remarked Mr. Fennington, "is how you knew that there was an unauthorized radio sending station in this neighborhood, Mr. Brandon. I should think it would be almost impossible to locate such a station, even approximately."

"On the contrary," replied Frank Brandon, "it is little more than a matter of routine. Probably any of these radio fiends here could explain the method as well as I can, but I'll try to make it plain to you.

"There is a certain type of aerial that has what we call 'directional' properties, that is, when it is shifted around, the incoming signals will be loudest when this loop aerial, as it is called, is directly in line with the sending station. The receiving antenna is wound on a square frame, and when the signals are received at their maximum strength, we know that the frame is in a prac-

tically straight line with the sending station we're after."

"Yes, but that still leaves you in the dark as to whether the station is one mile away or a hundred miles," observed Mr. Fennington, as Brandon paused.

"That's very true," answered the other. "And for that reason we can't stop at using just one loop aerial. What we actually do is to have three stations, each one equipped with a loop. These three stations are located a good many miles apart. Now, with these three loops, we have three lines of direction. We lay out these lines on a chart of the territory, and where they intersect, is the place where the unlicensed station is located. Is that clear?"

"Perfectly," said Mr. Fennington. "But what looks like a point on the map may be a large space on the actual territory."

"Oh, yes, our work isn't done by any means after we have got our first rough bearings," continued Brandon. "Having determined the approximate position, we take the loops and receivers to what we know is a place quite near the station we're after, and then we repeat the former process. This time it is much more accurate. Gradually we draw the net tighter until we find the antenna belonging to the offender, and then—

well, we make him wish he hadn't tried to fool the government."

"You certainly have it reduced to an exact science," asknowledged Mr. Fennington. "I don't wonder that everybody interested in radio gets to be a fanatic."

"We'll make a 'bug' out of you before we get through, Dad," declared Herb, grinning.

"If my load of silk is recovered through the agency of radio, I'll be enthusiastic enough over it to suit even you fellows," said his father. "It will mean the best set that money can buy for you if I get it back."

"We'll hold you to that promise," threatened Herb. "Radio can do anything," he added, with the conviction of a devotee.

"Well, pretty nearly everything," qualified Mr. Brandon. "A little while ago it was considered marvelous that we could transmit the voice by radio, and now the transmission of photographs by radio has been successfully accomplished."

"What!" exclaimed Mr. Fennington incredulously. "Do you mean to say that an actual recognizable photograph has been sent through the air by radio? That seems almost too much to believe."

"Nevertheless, it has been done," insisted Frank Brandon. "I saw the actual reproduction of one

that had been sent from Italy to New York by the wireless route, and while I can't claim that it was perfect, still it was as plain as the average newspaper picture. And don't forget that this is a new phase of the game, and is not past the experimental stage yet."

"Well, after that, I am inclined to agree with Herbert that 'radio can do anything,' " admitted Mr. Fennington.

"I don't think we'll have much trouble making a convert of you," laughed the radio inspector. "No doubt the quickest way, though, will be to recover your stolen shipment, so we'll start working in that direction the first thing in the morning."

And in this he was as good as his word. He was up betimes, getting in touch with headquarters by means of his compact portable outfit. He kept at work until he had received the promise of two trustworthy men, who were to report to him at the lumber camp as soon as they could get there. Then he routed out the radio boys, and after a hasty breakfast they all set out to locate the cabin where the boys had found the code key.

CHAPTER XXI

THE GLIMPSE THROUGH THE WINDOW

THE sun was just climbing above the tree-tops when the radio boys and Frank Brandon set out over the forest road, to the accompaniment of a full chorus of lusty feathered singers. Robin and starling and thrush combined to make the dewy morning gladsome, and the boys whistled back at them and wished Larry Bartlett were there to learn some new notes.

"This would be just his dish," commented Herb. "After he got warmed up, you wouldn't be able to tell him from the birds."

"The only difference is, that he's better," declared Joe. "If he were here now, he'd be teaching the dicky birds a new song or two. That boy is certainly a wonder."

"He's very clever," acknowledged Brandon. "He's getting along wonderfully well at the broadcasting station, and I understand he's had several good offers from the big vaudeville circuits."

"Why doesn't he accept one?" questioned Joe.

"He hasn't fully recovered from the effects of the accident yet. And, besides, he says he likes the radio work better. He can stay in one place, and cut out all the traveling. That seems to be a strong consideration with him."

"I don't know that I can blame him," commented Bob. "I should think that continual jumping around from place to place would get on anybody's nerves."

"Still, it gives one a fine chance to see the country," argued Frank Brandon. "If any of you fellows ever get into radio work in a commercial way, the chances are you won't be able to 'stay put' in one place very long."

"There's one great advantage about traveling, anyway," said Jimmy.

"What's that, Doughnuts?" queried Joe. "I should think that with your restful nature you'd rather stay in the same place and grow old and fat in perfect comfort."

"Oh, that part of it is all right," admitted Jimmy. "But don't forget that different parts of the country have different kinds of cooking. In New York the specialty is shore dinners; go a little South, and you get fried chicken and corn pone cooked by guaranteed southern mammies; go up North, and you get venison steaks; in the West they'll feed you mutton chops as big as a plate. And so it goes."

"You've even forgotten some places," laughed Bob. "How about a steaming dish of beans in Boston?"

"Yes, or frijoles and chile con carne in New Mexico," suggested Herb.

"Cease, cease!" groaned Jimmy. "Why talk about such things when we're such a long way from them? Every time you mention something new it makes me feel hungrier."

"Hungrier!" exclaimed Mr. Brandon. "Why, it's hardly half an hour since we finished breakfast!"

"What has breakfast got to do with it?" demanded the insatiable Jimmy. "That's past and done with. It's time to think of lunch, now."

"You win," laughed Brandon. "Your capacity will make you famous some day."

"It's made him famous already—at least, up here," Bob informed the radio inspector. "Didn't you know that he is the undisputed champion pie eater of the camp?"

"No, I didn't know that, but it doesn't surprise me in the least to hear it," said Brandon, with a smile. "How did he gain his laurels?"

Then Bob told him about the contest, and when he had finished Mr. Brandon laughingly congratulated Jimmy.

"I always had a sneaking idea that you could do it," he admitted. "But after my experience

with lumbermen's appetites, I realize that you must have been on your mettle all the way."

"It was rather hard at the end," admitted Jimmy, "but take it all together it was a real pleasure. That cook sure does know how to make good pies," and an expression of blissful reminiscence spread over his round countenance.

"He made a regular pig of himself, but we knew he would, and that's why we had such confidence in him," said Joe.

"Nothing of the kind!" protested Jimmy. "You know you fellows got me into it in the first place. You fixed it all up, and I only went in as a favor to you. But I might know better than to expect gratitude from this bunch."

"You'll find it in the dictionary," Joe informed him. "You ought to be grateful to us for providing you with a feed like that. It would have cost you a lot of money to buy all those pies back home."

"I think he came well out of it, at any rate," interposed the radio man. "But we must now be getting somewhere near that cabin, and we'd better go as quietly as we can. We know that there are two of the gang hanging out in it, and there's no telling how many more there may be."

"Not so very near the cabin yet," answered Bob. "Nearer that tree to which they had the receiving set attached."

Nevertheless, they advanced as silently as possible, keeping a sharp lookout for any sign of the black-moustached stranger and his friend. The woods seemed devoid of human presence other than their own, however, and they saw nothing to arouse suspicion until at length they reached the tree to which the receiving set was fastened. Frank Brandon examined this with interest. The box was securely locked, but the radio man drew a big bunch of various-sized keys from his pocket.

"I want to see what's in this box, but first I think we'd better post sentries," he said, in a low voice. "Suppose you go back a few hundred feet the way we came, Jimmy. You go the same distance in the other direction, Herb. And Joe can go a little way up the path that leads toward the cabin. You can stay here and help me get this box open, Bob. If any of you hear some one coming, imitate a robin's note three times, and then keep out of sight. We don't want the crooks to suspect yet that anybody is on their trail."

The three radio boys scattered to their appointed posts, and Frank Brandon proceeded to try key after key in the lock. He had to try fully a dozen before at last the lock clicked and the door of the box swung open.

Inside was a complete radio receiving set, with vacuum tube detector and batteries in perfect working order. Between the roots of the tree an

iron pipe had been driven into the earth to act as a ground. The antenna was strung from top to bottom of the tree on the side away from the path, and there was nothing to differentiate the box from an ordinary wire telephone set, except that it was slightly larger. There were a number of regular wire telephones scattered throughout the woods, to aid in fighting forest fires, so that anybody traveling along the path would have been unlikely to give this outfit more than a passing glance, if they noticed it at all. Had the radio boys not chanced to see the black-moustached man listening, with wireless headphones over his ears, the fact that the box contained a wireless receiving outfit might never have been discovered.

Brandon and Bob went carefully over every article of the equipment. They were on the lookout for another notebook such as the boys had found in the cabin, but there was nothing of the kind in the box. When they were satisfied of this, Mr. Brandon carefully replaced everything as he had found it, and snapped the lock shut.

"So much for that!" he exclaimed. "Now, let's get hold of the others and we'll see what that mysterious cabin looks like."

Joe and Herb and Jimmy were soon recalled from their sentry duty, and all set out along the path to the cabin. When they got close to the clearing the three sentries were again posted,

while Bob and the inspector made a detour through the woods so as to approach the cabin on the side away from the path, where there was little likelihood of those inside keeping a lookout. Very cautiously they advanced from the concealment of the woods, Frank Brandon with his right hand on the butt of a deadly looking automatic pistol. They crept close to the wall of the cabin, and listened intently for some sign of life within.

That there was at least one man in the cabin, and that he was still sleeping, soon became evident, for they heard the heavy breathing of one sound asleep. Mr. Brandon cautiously raised himself as high as the window, and peered within. From this position he could not see the sleeper, however, and he and Bob moved silently to the other side of the shack. From there they commanded a good view of the interior, and could plainly see the sleeping man, who was the same whom the boys had first encountered the day before.

His black-moustached face was toward them, and Brandon gave a start of recognition, while his fingers tightened on his pistol. For a few moments he stood tense, evidently deciding what to do. Then he beckoned to Bob to follow, and made for the path where the others anxiously awaited them.

"I know that man in there!" exclaimed Brandon excitedly. "He is known as 'Black' Donegan, on account of his black hair and moustache. He's wanted by the police of New York and Chicago, and I guess other cities, too. We could easily get him now, but if we did, the chances are the rest of the gang would take alarm, and we'd miss the chance of bagging them and getting back Mr. Fennington's stolen property. It's hard to say what is the best thing to do."

But on the instant a plan occurred to Bob, and he lost no time in communicating it to the others.

CHAPTER XXII

A NEFARIOUS PLOT

"If this fellow in the cabin is such a bad man, we can't afford to risk losing sight of him," said Bob. "Suppose Joe and Jimmy and I stay here, while Herb goes back with you, Mr. Brandon. We can stay here until your two regulars show up, and Herb can then bring them here to relieve us. How does that strike you?"

"It's a way out of the predicament," answered Frank Brandon, his frown vanishing. "You fellows are apt to have a long vigil, though. My men won't get to the camp until this afternoon, and after that it takes quite a while to reach this place."

"I guess we can stand it," said Bob. "Can't we, fellows?" he asked, glancing at the others.

Both Joe and Jimmy agreed, although the latter had secret misgivings as he thought regretfully of the dinner he would miss. However, such considerations were of little weight just then, and it was finally decided to adopt Bob's plan.

"I'll leave my pistol with you," said Brandon, as he and Herb prepared to leave. "But whatever else you do, steer clear of this gang and don't use firearms unless as a last resort. Remember, that if they once find out their hiding place is discovered, our whole scheme will be ruined."

The boys promised to exercise the greatest caution, and then Mr. Brandon and Herb started back toward camp.

Bob, after a brief inspection, dropped the deadly automatic pistol into his pocket, and then the three friends considered how they might best keep watch on the cabin without being discovered. First of all, at Joe's suggestion, they armed themselves with serviceable clubs, that might come in handy in time of necessity. Then they slipped silently into the underbrush, and worked their way along until they had attained a position where they commanded a view of the cabin's only door.

The spot they had chosen was surrounded by dense thickets, and one might have passed within ten feet without spying them. Bob carefully parted the bushes and broke off twigs here and there until they could see plainly enough, and yet were securely hidden from the cabin. This done, the boys made themselves as comfortable as possible under the circumstances, and prepared for a long vigil.

They had been in their retreat less than half an

hour when the door of the shack was flung open, and the black-moustached man appeared on the threshold. He gazed searchingly about the little clearing, then glanced up at the mounting sun and stretched prodigiously. At length, apparently satisfied that all was as it should be, he turned back into the cabin, and soon the aroma of bacon and coffee came floating down the wind to where the boys lay. Jimmy's nose twitched and his mouth watered, but he thought of the importance of the mission that had been intrusted to them by the radio inspector and stifled his longings.

The man in the cabin ate a leisurely breakfast, and apparently was in no hurry. Indeed, from the way he loitered over the meal, the boys rather suspected that he was awaiting the arrival of some other members of the gang. Nor were they mistaken. After a time the lads could hear the sound of approaching voices, and soon three men entered the clearing and made for the cabin. At the first sound of their voices, the man inside had stepped swiftly to the door, one hand in the bulging pocket of his coat; but when he recognized the others an ugly grin spread over his face, while his hand dropped to his side.

"So you have got here at last, eh?" he snarled. "I'm glad to find you didn't hurry yourselves any. I thought I sent you a wireless message to get here early."

"So you did, chief," spoke up one of the newcomers. "But we couldn't get here no sooner."

"You couldn't?" snapped the other. "Why couldn't you?"

"We got word that one of the government radio inspectors was at the lumber camp, so we had to come here by the long way. We were afraid he might recognize one of us if we happened to bump into him."

"Well, the cops have photoed all of you so often that I don't wonder you're shy," sneered the leader. "But come on inside. There's no use of standing chinning here."

Two of the men muttered sullenly to themselves, but ceased abruptly as the leader's frowning gaze fell on them. They all shuffled into the cabin, and the black-moustached man shut the door with a bang.

"Say," whispered Bob, "we've got to listen in on this pow-wow, fellows. I'm going to sneak up to the window and try to hear what they're saying. They must have some purpose in meeting here like this."

"Well, be mighty careful, Bob," said Joe anxiously. "They're a tough crowd, and we've got to watch our step. If they discover you, head for here, and if we can't get away we'll put up a battle."

"If I have any kind of luck, they won't dis-

cover me," Bob assured him. "Just sit tight, and I'll be back in a jiffy."

Very cautiously he crept through the underbrush toward the cabin. In spite of all his care a branch snapped under him and the second time the door was flung wide and the ill-favored leader of the gang stepped out and peered about him.

Bob flattened out as close to the ground as he could get and lay tense, while the outlaw gazed suspiciously at the bushes amid which he was concealed.

"What's the matter, Blackie?" called one of the gang. "Did you think you heard somethin'?"

"I know I did!" exclaimed the other. "But I suppose it was only some animal prowling around."

"Bein' alone in this shack has got on your nerves, maybe," taunted one of the gang.

"Nerves, my eye!" exclaimed the other. "I don't own such things! But I've got a notion to take a look through those bushes, anyway," and he started in Bob's direction.

"Come on back, Blackie," urged another of the gang. "We can't be foolin' around here all day. Be yourself, can't you?"

The others chimed in to the same effect, and their leader reluctantly abandoned his search and returned to the cabin. Had he gone another twenty feet he would inevitably have discovered

Bob, who had been on the point of springing to his feet and giving battle. It was a narrow escape, and the radio boys heaved sighs of relief as the door of the cabin closed on the formidable figure of the leader. They knew that these men were desperate criminals, heavily armed, who would not hesitate at murder to avoid capture.

Bob resumed his advance, an inch at a time, and at length reached the edge of the clearing. Before him lay a stretch of perhaps twenty feet of open ground, and should one of the desperados chance to open the door while he was crossing this space, discovery would be certain. However, this was a chance that Bob knew he must take, and without hesitation he sprang to his feet and ran swiftly but silently toward the cabin.

Fortunately he reached it unobserved, and crouched close to the wall beneath one of the little windows. There were numerous cracks in the side of the rude structure, and he had no difficulty in hearing what was going on inside.

The crooks were engaged in a heated debate, but soon the voice of their leader spoke out commandingly and the others fell silent.

"I tell you we haven't had a chance to get rid of that last load of silk we got near Castleton," he said, in an angry voice. "I couldn't get the price I wanted for it, and, besides, it will be just as easy to get rid of two loads as one, and no more risk.

Now, I'm going to send out a radio message in code to the rest of the gang, and we'll pull off the job to-night, just as I've already told you."

There were no dissenting voices, and presently Bob heard the whirr of the sending set, followed by the voice of the leader.

"HDEA' HDEA'," he called again and again, switching over to the receiving set to get an answer. At length he evidently reached the station he was after, for he listened intently for a few minutes. Then the generator hummed again, and Bob heard the black-moustached man speaking again.

"Get this, and get it right," he commanded, and there followed a string of words that would have been mere gibberish to Bob had he not held the key to their meaning. He searched frantically in his pockets for a pencil, and scribbled the words down as the man spoke them. When he had finished, the leader of the gang shut down the generator, and turned to the others.

"That's fixed," he said. "There won't be much to do for the rest of the day but look over your guns and make sure they're in good working order. Since we got that last truck they've been putting guards on them, and we want to be prepared to shoot before they do."

There was a general pushing back of chairs, and Bob realized that at any moment the door

might open. His mind worked quickly, and instead of going back to his friends the way he had come, he made a rush for the woods on the opposite side of the clearing. In this way the "blind," or windowless, end of the cabin was toward him, so that he would not be likely to be detected unless the robbers came out and walked around the house.

Lucky it was for Bob that he acted as he did, because he had barely started when the door was flung open and those inside came streaming out. For a few moments they stood in a group in front of the door, talking, and then scattered, some walking about, while others threw themselves on the ground and smoked.

But by this time Bob had reached the cover of the woods undiscovered, and set out to rejoin his friends. This necessitated a long detour, and it was a full hour later that he crept silently into their hiding place. So quietly did he come that Jimmy was on the point of uttering a startled exclamation, but checked himself just in time.

CHAPTER XXIII

PREPARING AN AMBUSH

"SAY, you came as quietly as a shadow," whispered the plump youth. "How do you ever do it?"

"You don't expect me to blow a whistle under the circumstances, do you?" asked Bob.

"Never mind that, but tell us what you heard," said Joe impatiently. "What are they up to, Bob?"

"I can't tell you until I compare what I copied down with the code key," said Bob, as he fished in his pocket for the bit of paper on which he had noted down the robber's message. Having found this, he and Joe searched through the key and soon had the following message pieced together:

"Truck — silk — Barberton Road — to-night. Meet me and others—Hicks Bridge—eight o'clock. Truck due—ten o'clock."

Having deciphered the message, the boys gazed questioningly at one another.

"That doesn't give us much time to act," said

Joe. "If we wait here it may be close to eight o'clock before the others come to relieve us, and then it will be too late to prevent the robbery."

"The answer is, that we won't wait here," said Bob decisively. "As long as we know their plans up until this evening, there's no need of watching this cabin any longer, anyway. We'd better start back right away, and tell Mr. Brandon what we've found out. He'll know the best thing to do then."

"That sounds all right to me," said Joe, and as Jimmy saw a chance of getting back to camp in time for dinner, he put in no objections.

"Now, for the love of butter, try to go quietly, Jimmy," warned Bob. "If those fellows hear a sound from this direction, they'll be right after us, because their suspicions are already aroused."

"I'll do the best I can," promised his rotund friend. "But I'm heavier than you fellows, and I can't slide around so easily."

"Well, go easy, anyway," said Bob. "Now, are we all ready?"

With infinite caution the boys wormed their way through the brushwood, Bob leading. By luck rather than good management Jimmy managed to be as quiet as his friends, and after almost an hour of this slow progress Bob judged that they were far enough away from the cabin to risk a faster pace. The shack was out of sight among the trees when he sprang to his feet, followed by

the others, and in a short time they had reached the path leading to the main road. Here it was still necessary to be extremely careful, for they never knew at what moment some turn in the path would bring them face to face with some of the robber band. Fortunately nothing of the kind happened, and soon they reached the main road and started at high speed for camp.

"I wonder if we can't take some sort of a short cut," came from Joe as they raced along.

"That's the talk," puffed poor Jimmy, who had great difficulty in keeping up with his chums. "The shorter the better."

"We won't dare risk it," returned Bob. "Why we might get lost."

"Whose afraid of getting lost?"

"We are, for we might lose too much time and all our plans would go to smash. No, we've got to stick to the main road."

"How much further have we to go?"

"I don't know."

"We've got to chase along until we reach camp," put in Joe. "Hustle now, every minute may be precious."

"I can't hustle any more than I am hustling," panted poor Jimmy. "Do you want me to drop down of heart failure or something like that?"

"Maybe we'd better go along and leave Jimmy behind," suggested Joe, with a wink at Bob.

"Not much," cried the stout youth, and after that did his best to keep up with the others.

Not a great while later they came in sight of camp, much to their relief.

Mr. Brandon was astonished to see them back so soon, but as briefly as possible Bob told him of what they had learned and showed him the code message.

"You fellows have done a clever bit of detective work, and with reasonable luck it ought to be possible to bag the whole gang to-night," said Brandon. "I know where Hicks Bridge is. It's about five miles this side of Barberton, and an ideal place for an ambuscade. The road runs between high banks just before it gets to the bridge, and some of the gang posted on those banks could command the road from either direction. But I'll get in communication with the chief of police of Barberton, and we'll see if we can't catch the thieves in their own trap."

"I suppose the two men you were expecting haven't arrived yet, have they?" inquired Bob.

"No. And I'm afraid we won't be able to wait for them, either," said Brandon. "I could radio to the Barberton chief, but I'm afraid the message might be intercepted by the crooks, if one of them happened to be listening. I guess it will be better to go by way of my automobile, although I hate to lose the time that it will take."

"Isn't there a telephone line from the camp?" suggested Joe.

"No, unfortunately, one hasn't been installed yet," replied the inspector. "But we can do the trick with the car if we start right away. I suppose there's no need of asking if you fellows would like to come with me?"

"None whatever," answered Bob, grinning. "Just give us a chance to go in and snatch a little grub off the table, and we'll eat it on the way."

Frank Brandon nodded, and the three boys dashed into the mess hall and caught up anything in the way of eatables that came nearest to hand, Jimmy, of course, specializing on his favorite doughnuts. Then they hurried out, and found Mr. Brandon waiting for them, with the motor running. After a short search they found Herb fast asleep in his bunk, and roused him unceremoniously, hustling him out before he was fairly awake.

"What's it all about?" he questioned, rubbing his eyes. "Has the camp caught fire, or do you just want to borrow some money from me?"

"Never mind the funny business now, we'll tell you all about it while we're traveling," said Bob, as they reached the automobile. "In you go, Herb."

Before they could find seats Mr. Brandon had let in the clutch, and the car started with a jerk

that landed them in a heap on the cushions. Regardless of the rough road, he kept picking up speed, and soon it was all they could do to stay in the car at all. Barberton was about thirty miles from the camp, and to reach it they had to cross Hicks Bridge. All looked calm and peaceful just then, and it was hard to believe that in a few short hours a desperate fight might be raging between the high banks that flanked the road. The bridge was some two hundred feet long, and passed over a deep cut between two hills. In spite of its present peaceful appearance it was easy to see that the place would be an ideal one to perpetrate such a crime as the robbers contemplated, and after they had passed over the bridge Mr. Brandon opened the throttle wider in his impatience to reach Barberton.

They slowed down to go through the streets of the town, and as they drew up in front of the police station, Brandon shut off his motor and leaped to the sidewalk.

"Come on in, boys, and we'll tell the chief about the little party scheduled for this evening," he said, and the boys followed him into the police station.

Fortunately the chief of police, Mr. Durand, was in, and he greeted Mr. Brandon with a heartiness that showed they were old friends.

After they had shaken hands, Brandon intro-

duced the radio boys, and then proceeded to acquaint the chief with the details of the plot they had discovered. As Mr. Durand listened a dark frown gathered between his bushy eyebrows, and his fingers drummed angrily on the table before him. When Mr. Brandon had finished, the chief jumped to his feet and strode fiercely up and down the room.

"This won't be the first trouble we've had with those rascals!" he exclaimed wrathfully. "Members of the same gang have held up and robbed stores in this town, and we have two of them doing their bit in jail right now. And if we have any luck to-night we'll have the whole gang under lock and key before the morning. These young fellows must have been right on the job from start to finish, Frank."

"Yes, I guess they were," replied Brandon. "If we land this gang, we'll have them to thank for it. But now what are your plans for capturing the crooks?"

For answer the chief pressed a button, and a capable looking police lieutenant appeared.

"Get together ten of our best men," he directed, "and put them into two automobiles. When they are ready to start, report to me."

The lieutenant saluted, and left the room.

"According to the code message, the robbers won't be at Hicks Bridge much before eight

o'clock, which is after dark these days," said the chief. "We'll get there a lot earlier than that, and I'll conceal my men in the woods. Then I'll leave orders here to stop the motor truck as it comes through, and replace its crew with a few picked men from my force. When the robbers try to hold up that truck, they'll have a big surprise in store for them."

"It might be a good plan," suggested Bob, "to mount a searchlight or two on the motor truck. At the right minute you could turn these on the crooks, and while it would confuse them, it would give your men in the woods a big advantage, as they'd be able to see the hold-up men plainly without being seen themselves."

"Young man, that's a first-rate suggestion!" exclaimed the chief, eyeing him appraisingly, "and you can believe we'll take advantage of it. I'll commandeer a couple from the Electric Light Company in readiness to mount on the truck when it comes along. I wish we could persuade you and your friends to join the Barberton police force."

"We'll be pretty nearly a part of it until those crooks are captured, if you'll let us," said Bob. "We all want to be in at the finish."

"It will be a dangerous business, and bullets may fly thick," the chief warned him. "You fellows have done more than your full duty already,

and we can hardly call on you to do any more."

"Just the same, we'll come along if you don't mind," insisted Bob.

"Oh, I'll be very glad to have you, as far as I'm concerned," said Mr. Durand. "I suppose you'll want to be in on it, too, Frank?"

"You're dead right," Brandon assured him emphatically. "I've gone too far with this to want to drop out now."

At this point the lieutenant appeared and reported that the men were in the automobiles, ready to start. Picking up the telephone, the chief ordered his own car. He invited Mr. Brandon and the radio boys to ride with him.

"You can leave your car in the police garage, Frank," he said, and Brandon was not slow in availing himself of this offer. In a short time he returned, and the three automobiles started for the scene of the projected hold-up, the chief's car leading and the other two following close behind.

CHAPTER XXIV

LYING IN WAIT

"DOESN'T look as though there's going to be much monotony in our young lives to-night," remarked Bob, as, tightly packed in the tonneau of the car, the boys rode on through the gathering darkness.

"For that matter there hasn't been much for several days past," chuckled Joe, who sat at his right. "A fellow would have to be a glutton to want more adventure than we've had since we came to Braxton Woods. What with Buck Looker and Black Donegan, we ought to be pretty well satisfied."

"I only hope Cassey will be in the gang that is rounded up to-night," observed Herb. "It would be too bad if only the rest were captured and that all-around scoundrel slipped through the meshes."

"I guess Cassey is the brains of the whole bunch," put in Jimmy. "Probably the others

didn't know anything about radio until he put them on to it. He'll be there all right. And he's likely to put up a pretty stiff fight before he lets himself be captured, for he knows what it means to him to be sent back to prison. With a new sentence tacked on to the old one it'll probably mean that he'll be in for life."

In a little while they reached the scene of the proposed robbery. They were well in advance of the time set by the plotters, and the chief took his time in carefully disposing his forces, availing himself of Frank Brandon's advice in doing this.

The bridge stretched between two hills at the bottom of which was a small stream, about a hundred feet below. On each side, almost down to the bridge itself, extended trees and shrubbery that afforded excellent hiding places. The only trouble was that both the outlaws and the officers who were trying to apprehend them were likely to seek the same shelter and might in this way stumble across each other before the trap was ready to be sprung.

This, however, was a contingency that had to be faced, and preparations were made accordingly. The men were placed at strategic points on both sides of the bridge. Whether the attempt at hold-up would be made at the entrance to the bridge or on the further side was a matter of speculation.

The chief went on the theory, however, that it would probably take place at the entrance, and there he placed the majority of the men under him.

The radio boys hinted that there was where they would like to be also, but in this the chief was adamant.

"I've stretched a point in letting you young fire-eaters come along at all," he said. "As it is, I may have a hard time explaining to your parents. And I hate to think what my position would be if anything happened to you. So I am going to put you where I think you'll be comparatively out of danger. You're just to be lookers on at this shindig. And if the bullets begin to fly, you just lie flat on the ground behind the trees until they stop. It may not be so glorious, but it's likely to be a mighty sight more healthy."

So, much against their will, the boys were compelled to obey orders and take the place assigned to them which was on the further side of the bridge.

"Putting us up in the gallery when we ought to have seats in the orchestra," grumbled Joe, as the boys ensconced themselves in a thicket behind a big clump of trees.

"Cheer up, you old gloom hound," chaffed Bob. "We may get in on this yet. At any rate, if we are in the gallery, we have a good view of the

stage. Or at least we shall have, when the search-light gets busy."

The darkness deepened until the night became as black as Egypt. There was no moon, and even the stars were obscured by clouds that heavily veiled the sky. The night was chill, and the boys buttoned their coats tightly about them as they sat waiting for developments.

They had perhaps an hour to wait, but it was not known but that some of the robbers would be on the ground at an earlier time than had been set, and every sense was on the alert as all strained their ears for the slightest sound and peered into the darkness on the chance that they might catch glimpses of shadowy forms. After the first few moments they had not ventured to talk for fear that they might be overheard. But this did not debar them from thinking, and they thrilled with excitement as they pictured each to himself the struggle that seemed about to take place on the road.

The minutes dragged along interminably, and in the intense silence the lads could almost hear the beating of their hearts. Then at a little distance a twig cracked and sent the blood racing madly through their veins.

Soon footsteps were heard approaching, and the lads crouched still lower in their hiding place. The sounds came nearer, and they could detect the

tread of two men. They were approaching without any excessive degree of caution, as they had no reason to believe that their plans had been discovered. As they drew closer, the boys could hear them conversing in low tones.

"I tell you it's all right," said a rough voice, which they recognized as that of Black Donegan. "All the fellows are tipped off and know just what they've got to do. Jake and Toppy will do the holding up, and then the rest of us will jump in if the driver cuts up rough. If he does, there'll be one more dead driver."

The boys waited for the answer that seemed to be long in coming. What they heard finally was a whistle that made them jump. They had heard that whistle before!

"Cassey!" whispered Bob to Joe. "Cassey, as sure as you're born!"

The next instant his belief became a thrilling certainty.

"It-t-t-t isn't the d-d-driver." The voice came out, with an explosive quality. "It's the g-g-guards he may have w-w-with him. The p-p-police are getting pretty l-l-leary about all the robberies t-t-t-that have been taking place around here lately, and they've g-g-g-," again came the whistle, "g-got to do something or lose their jobs. At any rate t-t-this is the last thing we're g-g-going to pull off around here——"

"I guess he's right about that," Joe whispered to Bob.

"——and j-j-just as soon as we're through with this, w-w-we'd better p-pull up stakes and try somewhere else."

The voice was now so close at hand that if the boys had reached out of the thicket they would almost have touched the speaker. At this thought Jimmy and Herb, especially, felt a thrill of excitement.

CHAPTER XXV

AN EXCITING STRUGGLE

"I THINK myself that we've hung round this neck o' the woods about long enough," agreed Donegan. "And I ain't any too well pleased to have that radio inspector snooping around the woods. He ain't up to any good if you ask me. But brace up, Cassey, for this last haul. You ain't generally chicken-hearted."

"You'll f-f-find that I have my n-n-nerve with me when the pinch comes," replied Cassey. "I'd rather be k-k-killed by a bullet than g-g-g-go back to prison."

The voices receded as the men went on, and soon the sound of their footsteps ceased. It was evident they were searching for the most advantageous place for the crime that they contemplated.

"I told you that I had a hunch that that villain would be here," whispered Jimmy, when they felt that it would be safe to speak.

"Good thing, too," said Bob grimly. "Cassey'll get to-night what's coming to him."

Half an hour passed—an hour—an hour and a half. Then far in the distance the boys heard the hum of a motor engine and the rumble of a heavy truck.

"There it comes!" ejaculated Joe, throwing caution to the winds in his excitement.

The rumbling grew louder, and soon the boys knew that it must be close to the bridge. Then they saw the lamps of an auto truck sending out their beams of light a hundred feet in advance, and could just discern above them the massive body of the truck.

It came on at a moderate rate of speed, slowing up somewhat as it struck the bridge.

Suddenly shots rang out and the boys could see two dark figures standing on the bridge and waving their hands at the driver, as they bellowed out orders to stop. At the same time, as though the shots had been a signal, three other figures came rushing from other directions.

It was impossible for the boys to keep still, and they too sprang to their feet and started for the scene of the hold-up, running at the top of their speed.

Just as they left their covert there was a blinding flash that made the whole bridge as bright as day. A searchlight had been turned on from the top of the truck full in the faces of the robbers. They staggered as though they had been struck,

and at the same instant there came a volley of shots and the police were upon the hold-up men.

There was a wild mélée of struggling men, as they swayed back and forth in a desperate struggle. The robbers had been taken completely by surprise and were outnumbered two to one. There were shouts and the crack of revolvers and the thud of pistol butts.

But the battle, though fierce, was of short duration. In a few minutes the robbers had been subdued. One lay stunned on the bridge and another lay by him wounded. Two more were held in the grasp of officers.

One, however, tore himself away from the officer who had grappled with him, and came rushing in the direction of the radio boys. In the glare from the searchlight they recognized Cassey.

He saw them, too, and fired his revolver at them. The shot went wild. He pressed the trigger again but with no result. Then, realizing that his weapon was empty, he hurled it at Bob, who was nearest to him.

Bob dodged, and the next instant grabbed at Cassey's legs. The expertness that had made him the star of his football team stood him in good stead. His arms closed round Cassey in a flying tackle, and they came heavily to the bridge together.

Cassey struggled desperately to rise, but Bob held him in an unbreakable grip, and a second later his comrades had come to his assistance and the scoundrel was overpowered and delivered over to the police, who came rushing up.

The robbers were securely bound and bundled into the auto truck that they had planned to rob. Then in high spirits the party drove back to Barberton. The chief was jubilant, and the praises he heaped upon the radio boys made their ears burn. They stayed long enough at his office to see the prisoners safely jailed and then, though the hour was late, rode back to their quarters in the woods with Mr. Brandon.

They slept long and late after their exciting experience, and it was almost noon the next day when they awoke. Bob was somewhat surprised to find a letter waiting for him. It bore no stamp, and had evidently been brought there by one of the lumbermen.

He opened it curiously and glanced at the signature. Then he gave a shout that brought his comrades quickly to his side.

"What do you think of this, fellows?" he cried. "Buck Looker's writing to me."

There was a chorus of wondering exclamations.

The last paragraph caught Bob's eye and he read it aloud:

"As for Bob Layton and those other chumps, all we've got to do is to stand pat. No one saw us put the stones in the snowballs, and if we just deny it, they can't pin anything on us. They'll have to pay for the window, and that'll even up things for what they did to us at Mountain Pass.

"Yours,

"BUCK."

Bob was utterly dumbfounded. Then he glanced at the heading of the letter and let out a whoop.

"Oh, this is too rich!" he cried, almost choking with laughter. "This letter is directed to Carl Lutz. You know he went home two or three days ago. Buck has written two letters, one to Lutz and the other to me—probably a roast—and he's put them in the wrong envelopes. Oh, how he's given himself away!"

Bob's comrades were fairly convulsed, and Jimmy grew so purple in the face that they had to slap him vigorously on the back. They had scarcely got him into a calmer frame, before he threatened to go off again, for he saw Buck Looker strolling along the road.

"Probably's come along to see how you were bearing up under the roast," chuckled Joe.

Bob ran over toward Buck, followed by his

comrades. Buck looked alarmed and put himself in a posture of defense.

"Oh, we're not going to hurt you," said Bob. "I only wanted to tell you that I got your letter."

"I hope it blistered your hide," growled Buck.

"It made me nearly laugh myself to death," replied Bob. "But let me advise you, Buck, to make sure the next time that you get the right letter in the right envelope."

"What do you mean by that?" asked Buck, in apprehension.

"Only that I got the letter you meant for Carl Lutz," replied Bob. "Maybe you've forgotten what you said, so I'll read the last paragraph," and, dwelling on every word, he read it over deliberately.

Before he had quite finished, Buck made a desperate grab at the letter, but Bob was too quick for him.

"No, you don't!" he exclaimed, as he folded it and put it carefully into his pocket. "That letter's going to cost you about two hundred dollars, for that's what it will cost to pony up for the broken window. We've got you dead to rights, and you'd better pay up and pay up quick. So long, Buck. And do be more careful next time to get the right letter in the right envelope."

With all his bluster knocked out of him, Buck

slunk away. The boys were not surprised to learn in the next letter from home that the insurance company had been paid.

"Some excitement we have had here," remarked Bob. "Wonder if we'll ever have such strenuous times again."

"Sure," declared Joe promptly, and he was right, as we shall see in the next volume of this series, to be called, "The Radio Boys with the Forest Rangers." In that volume we shall see how they fought a fire that came close to ending tragically.

After a good dinner, the boys lay sprawled out on the grass basking in the spring sunshine and utterly at peace with themselves and the world.

"Well, it's been hard work, but we've had pretty good luck at trailing a voice," observed Bob.

"Yes," agreed Joe with a grin, "and s-s-s-such a v-v-v-voice!"

And Jimmy whistled.

THE END

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